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Extra-Legal Characteristics and Sentencing Disparity Among Federal Drug Offenders

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EXTRA-LEGAL CHARACTERISTICS AND SENTENCING DISPARITY AMONG FEDERAL DRUG OFFENDERS

by

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ABSTRACT

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The development of the federal sentencing guidelines was made as an attempt to provide a uniform standard of sentencing procedure for defendants convicted within the federal legal system. Unfortunately, such unvarying policy has over the years birthed a system of sentencing that lacks equality among like defendants. The Supreme Court, in 2005, ruled that the sentencing guidelines were no longer to be compulsory during sentencing procedures, but rather act as an ancillary tool. The present study examines multiple legal and extra-legal variables and their influence on two aspects of imprisonment probability for federal drug offenders for the years of 1999-2006: in-out decisions and length of sentence received. The current study discovered sentencing disparity in terms of race/ethnicity, gender, educational attainment, as well as several other legal characteristics. The study also examined specific sentencing years in an attempt to gauge the climate of disparity and its impact on the likelihood of incarceration for federally sentenced offenders. The

fact that the results indicate that multiple areas of potential sentencing inequality continue to persist is evident enough that a guideline based system continues to offer very little in terms of a final solution to ridding the judicial process of its inherent biases.

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CHAPTER I

INTRODUCTION

The Sentencing Reform Act of 1984 was the initial step through which the federal government attempted to mandate the lengths of sentences received for certain crimes. Sentencing guidelines were developed in an effort to limit the judiciary discretion of judges; the purpose of which was to help curb the sentencing disparities present between individuals with similar case characteristics (Albonetti 1997).

Sentencing commissions, first established in 1978, continue to thrive in various states around the country (Tonry 1993). The system that receives the most scrutiny, and from which the data utilized by this study originated, is that which is employed at the federal level. According to Tonry (1993) the U.S Sentencing Commission is often criticized for limiting judicial discretion, causing judges and prosecutors to develop strategies circumventing certain aspects of their design, for being too complicated to understand and implement accurately, for creating situations where vastly dissimilar offenders receive like

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sentences, and finally, for significantly increasing the number of offenders receiving prison sentences.

In January, 2005, the United State's Supreme Court ruled in U.S v. Booker that the federal sentencing guidelines, as utilized during the sentencing of Booker, violated the 6th amendment of the constitution. Booker's sentence was placed into an upper guideline category based on the judge's finding, by a preponderance of the evidence, that additional facts had warranted a more severe punishment. The dilemma in the Booker case was that the evidence used to enhance his sentence was not found by the jury. The resulting majority opinion of the Supreme Court stated that sentencing may only be based on facts presented at trial or admitted to by the offender through a plea agreement (United States v. Booker 2005). The Court also decided that future applications of the sentencing guidelines were to be only advisory in nature. An additional development which occurred during December of 2007 saw the Supreme Court issue a ruling indicating that judges were allowed to be more lenient when sentencing individuals in connection with crack cocaine crimes. This decision was an attempt to reduce the immense gap that exists between the sentences of those charged with crack cocaine offenses versus those charged with powder cocaine

offenses (Kimbrough v. United States 2007). To put this discrepancy into perspective, the law prior to the decision, called for a minimum sentence of 10 years for a conviction associated with 50 grams of crack cocaine. To receive an equivalent sentence with a powdered cocaine conviction, an offender would have to have been in possession of 5 kilos (5000 grams) of the drug (FindLaw 2007).

This problem, which has become more apparent as years have passed, is that the level of discrepancy in certain instances appears to be growing (Everett and Wojtkiewicz 2002; Engen et al. 2003; Johnson 2003). The disparate sentences received by members of different racial groups, for like types of criminal activity, are prime examples of the issue under consideration within this study. Previous research in this area has found that minorities are more likely to receive unfair treatment when it comes to sentencing decisions than are other categories of individuals (Hebert 1997; Steffensmeier, Ulmer, and Kramer 1998; Crawford 2000; Steffensmeier and Demuth 2000, 2001; Everett and Wojtkiewicz 2002).

The fact that federal sentencing guidelines are presently only to be used as an ancillary tool by judges when deciding upon punishment in the form of sentence

length, does not completely remove the discretionary elements that existed before the decision was made and those that continue to exist today. Such discretionary practices still have the capacity to lead to inconsistencies among the sentences of like offenders. Social characteristics such as one's cohesiveness within society in terms of their relationships with other members, their educational attainment, as well as socioeconomic status, have the ability to deeply affect the sentencing process. There still exists the possibility that the aforementioned social attributes will be interpreted by the court in a variety of different ways; positive or negative. It is simply the existence of these two modes of possibilities that reflect the disparate nature of the entire sentencing process.

The primary concern of this study is to analyze a total of seven drug-offender cohorts, six from consecutive yearly periods in which the use of federal sentencing guidelines was mandatory, and one in which it was not. The latest offender cohort presents the first complete year of data following the Supreme Court decision that declared the sentencing guidelines were to be discretionary and no longer mandatory. The goal of the study is to examine disparities in the likelihood of being sentenced to prison,

as well as the probability of being sentenced within an upper-length sentencing category. Those offenders sentenced within the federal system during the years 1999-00, 2000-01, 2001-02, 2002-03, 2003-04, and 2004-05 comprise the cohort of data years prior to the Supreme Court decision. The group of offenders sentenced in the federal system between October 2005 and September of 2006 represent the first group of data that follows the Supreme Court's decision of January 2005 that revoked the guidelines' mandatory status.

This study attempts to examine the sentencing discrepancies of drug-offenders as it relates to their race/ethnic characteristics, gender, age, educational attainment, case disposition, the presence of certain drug types, prior criminal history, final offense level applied by the court, and the year in which they were sentenced. The resulting data could potentially aid in the amelioration of the recently revised system, by helping to uncover problem areas that continue to act as sources of disparity among like cases. This research utilized binary logistic regression models to test the relationship between the unique offender case characteristics and the receipt of a prison sentence and ordered logistic regression to

examine the likelihood of offenders being placed into the upper-range sentence categories.

CHAPTER II

LITERATURE REVIEW

RELEVANT SOCIAL THEORY

There exist several theories that have been discussed in previous research relating to the sentencing of offenders and the disparities present within such sentencing. Attribution theory involves the examination of how people are able to come to certain conclusions regarding situations, based on the use of specific characteristics, unique to each incident. It is the basis by which outsider opinion is shaped and maintained relative to a given situation. It essentially involves a process by which individuals attempt to come to terms with the activity of another person. For this study, particular attributions have been made by society in terms of criminal activity and its requisite punishment. Attribution in this sense was inherently built into the mandatory guideline based system. This study goes further, and extends that same idea to actors within the judicial system; judges. Those making the attributions must take into account the criminal act, and determine on their own how the offender will be sentenced in the eyes of the law. This individual will apply various aspects of societal policy, the offense

characteristics, and the factors that comprise the offender in making their decision (Bridges and Steen 1998). Also in the current study, attribution theory can be linked with pressure by external predispositions that are unable to be set aside at the time sentencing occurs, leading a judge to let preconceived attitudes impede the way of a fair decision. This can be either advantageous or detrimental to the offender. The judge in these cases can either attribute the offender's criminal act as occurring due to active and willing participation or something beyond their control, which was done in desperation, or at the behest of their social environment. For example, this type of action can be seen during the sentencing of repeat offenders, where a much harsher punishment is often handed down compared to first time criminals; the same can be seen with male offenders, and in general, minority individuals (Engen et al. 2003). This type of behavior could be a valid explanation for the existence of racial, gender, and educational-attainment disparities in the sentencing of certain offenders.

A second theory that is examined within this study is Marxian conflict theory, as it relates to the realm of criminal justice. In its most fundamental form, this type of conflict theory is oriented toward the power

relationship among social structures and institutions; here, the state, as is represented by the justice system, acts to enforce only the interests of the economic and politically powerful (Bridges, Crutchfield, and Simpson 1987). Along these same lines is the general principle that conflict theory offers a position that views society as a complex division of power and the institutions that enforce such power (Ritzer and Goodman 2004); more generally speaking, some individuals, or groups, are in power, while the majority of others are not. Those that possess either economic or political power within a society maintain a degree of authority over the other members of that same society. In order to maintain this controlled relationship, their power must be exhibited at various moments in time so as to remind those below them of their position within the hierarchy of power and control.

Turk's notion of criminalization suggests that the actual meaning applied to a particular behavior by those enforcing the law will determine the severity of the punishment for anyone deciding to perform the illegal act (Vold, Bernard, and Snipes 2002). In the research on sentencing and departure disparity, it is asserted that when those beneath the party in power act in a way that threatens the established authority, they will be dealt

with in a more heavy-handed way (Quinney 1973; Everett and Wojtkiewicz 2002). This leads to the idea, as presented within conflict theory, that because minorities, and those who commit certain types of offenses, are perceived by society as more dangerous and often problematic, they experience an increased likelihood of being sentenced more harshly than a non-minority (Bridges et al. 1987). This can be tied to Quinney's belief that common perceptions of crime are created as part of a process to promote particular values or societal interests (Vold et al. 2002). A final thought that involves a conflict approach is Donald Black's idea that the law is culturally based and enforced, which can account for some of the disparities experienced by certain minority cultural groups within society (Vold et al. 2002).

The final theory under consideration within this study, which also shares some similarities with certain aspects of conflict theory, is labeling theory. Proponents of labeling theory suggest that less educated minority males will be punished more severely, when compared to other racial categories due to the labels applied to them within a society (Albonetti 1991). The use of labeling theory in this study focused on the application of socially applied attributes or relative demeanors towards certain

acts or individuals, and its effect on potential sentencing outcomes. Fundamentally, the process of labeling involves the determination of what is considered good or bad within a given society, and then how such folkways and mores are applied to groups or individuals (Goode 1975). In this sense, labeling theory can be used to examine the negative characteristics ascribed to offenders of various racial/ethnic backgrounds, social-statuses, educational backgrounds, or offense types of which they were convicted and how it ultimately affects the likelihood of a prison sentence and the length of sentence received.

RACIAL/ETHNIC DISPARITIES

Previous research in the area of correctional sentencing has examined in detail the relationships present between an offender's demographic information and the resulting disposition of the case. Most of the racial disparity research conducted has looked at differences present in the sentencing of white, African American, and Hispanic individuals (Albonetti 1997; Hebert 1997; Steffensmeier and Demuth 2000, 2001; Everett and Wojtkiewicz 2002). Much of this research has concluded that between racial groups, after controlling for certain legal determinants, minorities receive harsher sentences

under the law than do whites (Steffensmeier and Demuth 2000, 2001; Everett and Wojtkiewicz 2002; Hebert 1997; Albonetti 1997). For example, Steffensmeier et al. (1998) found that black males, aged 20 to 30, are sentenced more harshly than those offenders who are white, female, and older. Spohn, Gruhl, and Welch (1982) found that offenders who were not able to afford private counsel received harsher sentences than those who could; since blacks are often more likely to be economically disadvantaged, Spohn et al. conclude that this type of disparity affects minorities more negatively than it does whites. Some of the research concluded that race did not have a direct effect on the severity of sentencing, but that minorities were at a greater risk of being sentenced to prison.

Race bias has also been discovered to play a considerable role during preliminary stages leading to a potential trial (Demuth 2003). Demuth (2003) examines processing discrepancies of felony defendants in substantially sized urban courts; the major aspect of these findings relate to the disproportionate number of Hispanics affected by an ethnic bias in several pre-case procedures, such as the bail amounts set by the judge. The earlier research in this area tends to focus more on the differences found between black and white defendants, while

the latest analyses have included the growing Hispanic population in their respective inquires (Steffensmeier and Demuth 2001). Bridges and Steen (1998) found that judgments made in regards to offenders' level of dangerousness and attributed negative personality traits were negatively affecting the sentencing recommendations for blacks more than whites.

Differences among case outcomes, relating to the use of either a plea bargain or decision to proceed to trial, is an additional indicator of how equitable the system can be towards various types of offenders. Much of the newer research in this area has found that there exists a considerable penalty for those offenders who proceed to trial versus those that opt to enter a plea of guilty. It has been reported that this penalty is lowest among white defendants for both drug and non-drug cases, while being highest for black drug offenders and Hispanic non-drug offenders (Steffensmeier and Demuth 2000). In an examination of plea bargaining, Uhlman and Walker (1979) concluded that due to the accompanied sentence severity and the likelihood of being incarcerated with jury trials, offenders are much more likely to forgo this option in the future; making additional use of plea agreements and bench trials.

Johnson (2005), in an examination of various court systems within Pennsylvania, found that the trial penalty varied greatly among various courts; some where no penalty was found and others where the penalty for proceeding to trial was severe. In a similar study, Johnson (2003) found that the decision to proceed to trial amplified the possibility of increased sentence severity by 85%. Smith (1986) found that defendants who were employed full time were less likely to receive a prison sentence when pleading guilty. An advantageous sentencing situation was also present for white offenders and those offenders 25 years or younger (Smith 1986).

GENDER DISPARITIES

Coupled with racial/ethnic biases, research has been conducted which has examined the effects of several other demographically based prejudices such as gender and education. In studies, which have included gender as one of the many extralegal factors considered, a series of mixed results have been reported. Koons-Witt (2002) found gender to play a non-significant role on the likelihood of incarceration. It has also been proposed that the actual effect gender has on sentencing rates may have been masked considerably by the disproportionate number of cases

involving male offenders (Kempf-Leonard and Sample 2001). Smith and Visher (1980) found that level of male and female involvement in criminal activity has been converging for minorities but no similar pattern could be found for whites; essentially the conduct of black females is becoming more closely associated with that of black males. Steffensmeier and Allan (1996) examined the differences between male and female involvement in particular crimes, and found that over the years the rate of female arrests have been steadily increasing in non-violent areas of criminal activity, such as certain property crimes. Nagel and Hagen (1983) found a small effect of differential leniency that is advantageous toward females. Effectively, during sentencing where resulting decisions can be ordered based on severity, women are more likely to receive a relaxed judgment, except when dealing with serious types of crime (Nagel and Hagen 1983). Kempf-Leonard and Sample (2001) found that certain demographic traits, coupled with a defendant's personal situation, can have a negative effect on case outcome for certain individuals. Nagel and Johnson (1994) report that female drug offenders benefit from sentencing leniency at various stages within the criminal justice system, from plea-bargaining to guideline selection; affirming that there exists some form of female

advantage over males with similar case characteristics. A study of Florida's 9th Circuit discovered the existence of what appears to be a growing racial-gender disparity among cases where the habitual offender statute is applied (Crawford 2000). Crawford (2000) found that black women who had committed a form of drug offense were more than nine times as likely to be sentenced as habitual offenders than were white women.

Education level and employment have also been studied and linked to a defendant's sentence; this also includes differences by race and ethnic groups (Spohn and Holleran 2000). Social status has been examined when looking at female offenders and the eventual dispositions of their cases. It was reported that women who were employed received a more lenient sentence than those who were not, as well as those with criminal pasts receiving harsher sentences than women without prior criminal records (Kruttschnitt 1981). When sentencing female offenders it has been suggested that judges attempt to weigh two important attributes associated with their cases, their culpability and also the practicality of their sentencing (Steffensmeier, Kramer, and Streifel 1993). Steffensmeier et al. (1993) found that previous research, in which gender disparity was reported, may be due to lack of control

variables within those studies. They also found that such differences between male and female offenders may come down to their perceived danger to society and actual involvement in criminal activity. Age of the offender also becomes a contributing factor when examining sentencing outcomes coupled with other factors. It has been reported that age has a more profound effect among younger males than it does old when considering sentencing outcomes (Steffensmeier et al. 1998).

EDUCATIONAL INEQUALITY

Stratification among educational attainment has been under considerable examination for many decades by researchers in relation to arrest rates and criminal activity. The idea is that crime levels can be reduced by increasing educational opportunity and availability. This increase is believed to also influence the advantage of genuine work, while at the same time raising the costs associated with deviant activities that supplement legitimate opportunities (Lochner and Moretti 2004). Along a similar line of thinking, it is necessary to examine the stages of development for individuals who are already present within the educational system and how their performance levels can be tied to their deviant activities.

The performance of individuals at various stages within the educational system has the ability to indicate or foreshadow potential educational attainment, if they are both allowed and willing to continue. Maguin and Loeber (1996) found that the poorer an individual's academic performance was, the more delinquent they became. They also report that low levels of academic performance is related to an increase in the severity of the delinquent acts, as well as the continuation of offending. Increased parental education also has the ability to affect attainment levels for future generations, leading to increases in levels of social benefits (Gayle, Berridge, and Davies 2002).

Also under consideration here is the relationship between increased education and socioeconomic status; many of the different arguments point out that economic hardship tends to weaken an individual's, as well as a society's, social bonds (LaFree and Drass 1996). These bonds are what tie members of society together in an interconnected way, through relationships with other individuals or through connections with societal structures, such as occupational bodies or academic institutions. The breakdown of these social ties has the potential to increase crime, as potential offenders feel they have no other opportunity or

means of supporting themselves. They lose their connections with others and in turn the sense of their own ability to achieve through legitimate and legal opportunities. LaFree and Drass (1996) also found that greater income inequality was associated with an increase in the arrest rates of both blacks and whites. Kempf-Leonard and Sample (2001) found that poverty was linked to the receipt of more severe sentences. Chiricos and Bales (1991) found that, after controlling for type of offense committed and prior record, unemployment had a significant impact on the likelihood of incarceration. The impact of unemployment was strongest among men, young black males, and those who were violent criminal offenders (Chiricos and Bales 1991). An additional and very noteworthy finding within the Chiricos and Bale study was that black males who were employed were 5.8 times more likely to be sentenced to prison than employed white males for drug offenses (1991).

Lower income levels also have the ability to affect sentencing outcomes for certain offenders. Myers (1987) reported that when examining Georgia offenders who were sentenced to both prison and post-incarceration probation, that the income disparity present did not produce a consistent pattern of increased sentencing severity. It was noted however, that increased racial inequality

resulted in shorter sentences; where blacks presented a large portion of the population, the use of incarceration based sentences were more prevalent, as well as more severe sentences that included both imprisonment and post-imprisonment probation sanctions (Myers 1987). Myers (1987) also found that as racial income inequality increased, the split sentences (those with both imprisonment time and probation) imposed on whites became more severe than those imposed on blacks.

Blau and Blau (1982) reported that income inequality had a definite impact on the level of crime within large urban cities. They also noted that once economic inequality was controlled for, the effect on the crime rate was no longer present. The combination of income inequality, as well as the racial makeup of a location, interacts to produce levels of social disorganization, which in turn can have substantial effects on levels of criminal activity (Blau and Blau 1982).

Along similar lines, further research has found that advantages gained through educational attainment for minority individuals has failed to transition into employment opportunities or economic equality relative to whites (Blau and Duncan 1967). Lochner and Moretti (2004) found that education does significantly reduce criminal

activity. They also echo the presence of a relationship between wage increases, associated with additional schooling, and a decrease in the amount of criminal activity. The structural support that education and economic opportunity have the ability to provide an individual has also been examined by researchers. Osgood et al. (1996) reports that the lack of this structure increases individuals' potential opportunities for the commission of deviant acts.

In relation to educational attainment and drug use, research has been conducted examining the effects of education on one's susceptibility to drug use. Drapela (2005) found that dropping out of high school had no significant relationship in regards to future drug activity. Other studies have, however, found some correlation between dropping out of school and a continuation of deviant activities (Obot and Anthony 1999; Jarjoura 1993). These findings are relevant to the current study due to its examination of drug offenders and their educational attainment; by examining these cases, it is this study's goal to shed additional light on the advantages provided by educational attainment, and the relative disparity that still exists among racial groups in

regards to what benefits certain levels of attainment can actually provide.

LIVING ARRANGEMENTS

Over the last several decades the structure of the American family has undergone considerable change. The concept of importance within this study is social integration; how various living arrangements function to either promote or discourage a sense of belonging between an individual and society. The varieties of arrangements that exist have the ability to create far reaching effects on other areas of an individual's social involvement; through income cooperation and participation, to an ability to deal with stress. The development and involvement within a cohesive relationship or family unit has been shown to play a role in access to delinquent activities (Rankin 1983). Pearlin and Johnson (1977) found that single individuals open themselves up to psychological issues and other social exclusions due their unwillingness to conform to societies mandate towards marriage. Contrasting this particular finding, Alwin, Converse, and Martin (1985) found that individuals living alone actually developed positive social interactions with others outside of the home.

The rates of divorce and decisions to postpone marriage have continued to rise steadily over the years. This leads to further social problems, such as the number of children born out of wedlock and the rapidly increasing number of female-headed households (Espenshade 1985). These types of situations serve to only further exacerbate the economic inequalities experienced by those living in larger inner cities; forcing individuals to choose illegal means by which to support either their children or their family. The differences that exist among family arrangements have been found to be associated with disparity among economic security (Bianchi and Farley 1979). Bianchi and Farley (1979) also reported that the differences found between traditional family structures and female-headed households, in relation to economic equality, have been growing rapidly among both black and whites.

The further increase in the number relationships that lack both personal and societal cohesion, will serve to perpetuate the severe problems that relate to heightened levels of crime, thus forcing more individuals into situations which result in criminal activity, arrest, and ultimately, sentencing.

SOCIAL DISLOCATION

An issue that acts as the foundation for the racial, economic, and educational inequality that is found in larger areas of society is social dislocation. Inner-city dislocations, which can be characterized by widespread jobs loss, severe levels of poverty, as well as the previously mentioned dissolution of family units, have a considerable impact on crime (Shihadeh and Steffensmeier 1994); which in turn, leads disadvantaged individuals toward an entrance into the criminal justice system. Shihadeh and Steffensmeier (1994) also found that family instability and disruption was the strongest predictor of juvenile violence, as well as having an effect on adult violence. The study also reported that income inequality, coupled with the wavering family structures, provided an atmosphere that only furthered the development of social dislocation among urban environments.

The various types of disparities presented have become more evident with the inclusion of Hispanics into the data. With a larger representative population within each of the datasets, the discovery of disparities experienced by Hispanics will become more accessible and clear. Along these same lines, an issue that should be taken into consideration is the possibility of an interaction effect

among multiple forms of disparity. The relationships between legal and extra-legal variables at the various stages in the judicial process present an interesting scenario when looking at their possible effects on sentencing judges; in how their developed attitudes may affect their sentencing decisions. Hagan (1974) describes a suppression scenario where harsher sentences, imposed by less tolerant judges, are offset by more lenient judges, in effect, masking the disparity. Either way, the presence of such sentencing discrepancies among racial/ethnic groups on the basis of various legal and extra-legal factors must continue to be examined.

CHAPTER III

HYPOTHESES

The previous research in this particular area lends itself quite well to re-evaluation and it is in this light that similar hypotheses can be generated. Because this study makes use of two stages of analysis, it is necessary to separate each stage's hypotheses with a similar distinction. The first stage of analysis, which examines the likelihood of the drug-offenders being sentenced to prison, (in/out probability through logistic regression) examines eight main hypotheses.

BINARY LOGISTIC HYPOTHESES

1. Black males will experience the highest likelihood of incarceration over the other racial/ethnic groups.
2. Increased levels of educational attainment will reduce the likelihood of being sentenced to prison across all groups.
3. Females will experience the greatest advantage from increased educational attainment than their male counterparts.
4. Those offenders, who proceed to trial, will experience an increased likelihood of being incarcerated.

5. Younger offenders, those in the first half of the age categories, <21 through 30 years of age, will be more likely to be sentenced to prison than the older offender groupings, those 31 through 50 years of age.
6. The presence of a prior criminal history/application of higher offense levels will result in the increased probability of being sentenced to prison.
7. A conviction for crack cocaine possession within in the offenders' offense file will result in a higher likelihood of being sentenced to prison compared to all other drug types.
8. Offenders sentenced during the 2005-06 data year, the first year of data present following the Supreme Court decision, will experience the least likelihood of being sentenced to prison among all of the other data years examined.

The second stage of analysis examines the likelihood of being incarcerated within one of the higher range sentencing categories through the use of ordered logistic regression. The five sentence length categories that this study utilized are: probation or less than 2 years, equal to or greater than 2 years but less than 4 years, equal to or greater than 4 years but less than 7 years, equal to or greater than 7 years but less than 11 years, and sentences

greater than or equal to 11 years. The analysis used those offenders sentenced greater than or equal to 11 years as the reference category. This second part of the analysis examines an additional eight hypotheses which mirror those found in stage one.

ORDERED LOGISTIC HYPOTHESES

1. Black males will experience the highest likelihood of being sentenced in an upper range category than the other racial/ethnic groups.
2. Increased levels of educational attainment will reduce the likelihood of being incarcerated with an upper range sentence.
3. Female offenders will experience the greatest advantage from increased educational attainment than their male offender counterparts.
4. Those offenders who proceed to trial will experience an increased likelihood of being incarcerated within a higher sentencing range category.
5. The presence of a prior criminal history will result in the increased odds of being sentenced to prison in an upper range category.
6. Younger offenders, those in the first half of the age categories, <21 through 30 years of age, will be more

likely to be sentenced in an upper range sentencing category than the older offender groupings, those 31 through 50 years of age.

7. A conviction for crack cocaine possession within in the offenders' offense file will result in a higher likelihood of being sentenced to prison in an upper level sentencing category compared to all other drug types.
8. Offenders sentenced during the 2005-06 data year, the first year of data present following the Supreme Court decision, will experience the least likelihood of being sentenced into an upper length sentencing category compared to the other data years.

CHAPTER IV

METHODOLOGY

This study examines federal sentencing data gathered by the United States Sentencing Commission for the yearly periods of 1999-00, 2000-01, 2001-02, 2002-03, 2003-04, 2004-05, and 2005-06. Each of the datasets included those cases received by the sentencing commission from October 1 through September 30 of the following year. There were 59,846 cases recorded between 1999-00, 59,897 cases during the period of 2000-01, 64,366 between 2001-02, 70,258 within the 2002-03 dataset, 70,068 cases within the 2003-04 dataset, 72,462 cases within the 2004-05 dataset, and finally, 72,585 cases within the 2005-06 dataset. Each data set included those cases sentenced following the Sentencing Reform Act of 1984. Only those cases from the datasets in which the offense type was drug related were selected for analysis; these included all cases with drug offense types of either drug trafficking, simple possession, or communication facilities. This was performed in order to assist, with greater emphasis, an examination of the extralegal effects placed on the likelihood of being sentenced to prison, as well the length of sentence received. A secondary area of examination

focused on the years in which the offenders were sentenced, in an attempt to gauge the change in the probabilities of being sentenced and for how long, over a period of several years.

In order to discern the potential change in disparity over the years under examination, each year's data was combined into a single dataset containing a total of 469,482 cases. Dummy variables were created for each yearly set of data that correlated the cases with their respective yearly period. Selecting only the offenders who were convicted of a drug related offense reduced the number of overall cases involved in model construction and analysis from each dataset to 179,436; there were a total of 715 cases within the final appended dataset in which the receipt of a prison sentence was unknown.

Due to the very large sample sizes and the unique nature of the members comprising each dataset, all of which are drug-offenders, more weight will be placed on the strength and direction of the resulting coefficients. Less emphasis is placed on broad universal comparisons. The characteristics of each dataset used within the study are presented in the Appendix.

VARIABLES

The study's analysis involved the use of two types of dependent variables, a binary dependent variable representing whether or not the individual offenders in the datasets were sentenced to prison, and an ordered dependent variable which represented five distinct categories of sentence length; probation or less than 2 years, equal to or greater than 2 years but less than 4 years, equal to or greater than 4 years but less than 7 years, equal to or greater than 7 years but less than 11 years, and finally, only those sentences equal to or greater than 11 years. Certain variables in the original datasets presented a unique challenge in way of statistical analysis; many were categorical in nature and consisted of very numerous and overly comprehensive categories for this study's purpose. In these cases, the variables were condensed into a more statistically useful set of variables and dummy variables based on a broader set of criteria.

Taken from the datasets were several independent variables used to represent the offender's gender, the presence of a criminal history, and whether or not the case was decided by plea versus a trial. A multicategorical race variable, a four-category education variable, a seven-category variable representing offenders' age, and a seven-

category variable delineating the various types of drugs found within the offenders' offense files. The study also made use of a seven-category variable representing the years in which the individual case data was gathered.

Gender was assessed based on a single dummy variable where females were coded as 1 and males 0. This study utilized an alternative education variable to create three new education dummy variables that were used to compare and examine the effect of offender educational attainment on the likelihood of being sentenced to prison and the resulting length of sentence. The original variable consisted of four categories, less than high school education, high school graduate, some college education, and college graduate. The high school graduate dummy variable was coded 1 if the offenders' max educational attainment was a high school diploma and 0 if other. The some college dummy variable was coded 1 if offenders' educational attainment consisted of some college education and 0 if other. The college graduate dummy variable was coded 1 if the offenders' level of educational attainment resulted in a college degree and 0 if other. The educational level, less than high school education, was used as the reference category during the creation of the new variables.

A seven category variable representing offenders' age at the time of offense was recoded to produce six different age range categories: Less than 21, 21 to 25, 26 to 30, 31 to 35, 36 to 40, and 41 to 50. Dummy variables were created utilizing the category of offenders 50 years and older as the reference category. For the less than 21 years of age dummy variable, if the offenders' age at the time the offense was committed fell within this range it was coded 1, and 0 if not. For the 21 to 25 age category dummy variable, offenders' whose age at the time of offense fell within this range were coded as 1 and 0 if not. Offenders aged 26 to 30 at the time of offense were coded as 1 for that age status dummy variable, and 0 if not. For the 31 to 35 years of age group, offenders' whose age at the time of offense fell within this range were coded as 1 and 0 if not. For the 36 to 40 age category dummy variable, offenders' whose age at the time of offense fell within this range were coded as 1 and 0 if not. For the final category, those offenders who were 41 to 50 years old at the time of offense were coded as 1 and 0 if they were part of another age category.

A dummy variable was used to represent whether or not the offenders' case was decided by plea or a trial. Those cases decided by trial were coded as 1 and those in which a

plea was entered were coded as 0. A dummy variable was also implemented to examine the effect of a prior criminal history on the receipt of a prison sentence. Those cases in which there was "no criminal history" were coded 0 and those cases that did reflect a criminal history were coded 1. An additional ratio level variable was also considered that denoted the final offense level as related to the seriousness of the offenders' crime and denoted by the court. The presence of such an offense level was coded beginning with the number 1, through an upper level of 99. These are the final values as determined by the court.

An alternative form of the race variable was used, which denoted white, black, Hispanic, and other categories. This particular variable was chosen from the datasets due to its combination of race and ethnicity into a single four category variable. The other available race variable placed Hispanics within the same category as whites and was unusable by this study. From the selected race variable, three new variables were created. Black was a dummy variable coded 1 if the offender was black and 0 if not. White was a dummy variable coded 1 if the offender was white and 0 if not. Other was the final dummy variable, coded 1 if other and 0 if not other. Hispanic offenders were used as the reference category during the creation of

each of the new variables due to it being the largest category of offenders among each of the datasets.

In order to examine the potential disparity among the various racial categories, and their likelihood of imprisonment, in relation to the actual narcotic they were charged with possessing or trafficking, a new set of dummy variables was created. These variables were constructed from a condensed categorical variable that aggregated the drugs types into six categories: cocaine, crack, heroin, marijuana, methamphetamine, and other. Five new dummy variables were constructed for cocaine, crack, heroin, methamphetamine, and other categories, utilizing the marijuana drug type as the reference category. Each dummy variable was labeled in association with the drug-type found in the offenders' case file: for cocaine, the presence of cocaine within the file was coded 1, and 0 if not. For crack, the presence of the drug in the offense file was coded 1 and 0 if not present. Heroin was coded 1 if the drug was present in the offense file and 0 if not. Methamphetamine found within the case file was coded 1 and 0 if not. For the dummy variable Other, the presence of an other-type of drug was coded 1, while the absence of an other-type drug was coded 0. The frequencies and coding

for each of the variables utilized within the study are located in the Appendix.

METHODS OF ANALYSIS

Analysis of the data was broken down into two separate stages, each stage examining a different aspect of the research question; the first analysis involved the use of binary logistic regression to examine the effect various legal and extra-legal variables had on the probability of being sentenced to prison versus not. The second phase of analysis utilized ordered logistic regression to examine the effect legal and extra-legal variables had on the likelihood of receiving a sentence in an upper-length range category. Each section of the analysis was performed on a single dataset that combined the data from 1999-00, 2000-01, 2001-02, 2002-03, 2003-04, 2004-05, and 2005-06. Three interaction terms between each level of educational attainment and gender were created and included in each stage of analysis. The interaction effects will be used to examine potential differences that exist between males and females in the relation between completed education and the dependent variable. The focus of the analyses was the resulting b values, coefficient estimates, and odd ratios.

CHAPTER V

RESULTS

Frequencies for the variables utilized from each of the datasets are presented in the Appendix. The results for each method of analysis are divided once again into two separate sections. The first section deals with the outcomes produced from the binary logistic regression model for the years of 1999-00 through 2005-06, while the second focuses on the ordered logistic regression model. Finally, each of the hypotheses, for both the binary logistic and ordered logistic regressions will be examined for their validity within the study.

BINARY LOGISTIC REGRESSION

The logistic regression results are located in Table 1 on the following page. Approximately 26.3% of the drug offenders from the total sample population were white. 28% of the drug offenders were black, 43% were Hispanic, and 2.6% comprised the other racial/ethnic category.

Table 1: Logistic Regression Results

r2= .131 - Cox
r2= .398 - Nagelkerke

	Model I			
	b	S.E	Exp(b)	
Female	-1.176	0.048	0.308	***
White	-1.153	0.035	0.316	***
Black	-0.709	0.043	0.492	***
Other	-0.912	0.071	0.402	***
Aged <21	0.259	0.067	1.296	***
Aged 21 to 25	0.350	0.056	1.420	***
Aged 26 to 30	0.353	0.056	1.423	***
Aged 31 to 35	0.386	0.059	1.471	***
Aged 36 to 40	0.435	0.062	1.545	***
Aged 41 to 50	0.366	0.058	1.442	***
High School Graduate	-0.661	0.038	0.517	***
Some College Exp.	-0.945	0.044	0.389	***
College Graduate	-1.190	0.071	0.304	***
Decision by Trial	0.722	0.127	2.058	***
Prior Criminal History	0.353	0.029	1.423	***
Final Offense Level	0.206	0.002	1.229	***
Drug - Cocaine	-0.380	0.038	0.684	***
Drug - Crack	-0.200	0.054	0.819	***
Drug - Heroin	-0.126	0.059	0.881	*
Drug - Meth	-0.041	0.049	0.960	
Drug - Other	-0.708	0.046	0.493	***
Data Year 2000-01	-0.019	0.047	0.981	
Data Year 2001-02	0.099	0.047	1.104	*
Data Year 2002-03	0.228	0.047	1.257	***
Data Year 2003-04	0.312	0.050	1.366	***
Data Year 2004-05	0.278	0.050	1.320	***
Data Year 2005-06	0.349	0.051	1.417	***
HS Grad. by Gender	0.358	0.067	1.430	***
Some College by Gender	0.287	0.076	1.333	***
College Grad. by Gender	0.613	0.152	1.846	***

* - p < .05
** - p < .01
*** - p < .001

Within this study, Hispanic offenders were used as the reference category during the analysis. 86.9% of the sample population was male, with 13.1% being female. Following each section of variable specific results will be the corresponding hypothesis analysis.

The gender variable produced a b coefficient of -1.176, indicating a negative relationship with the likelihood of being sentenced to prison. The odds ratio for this variable was .308. This value indicated that odds of female drug offenders being sentenced to prison were .308 times the odds of similarly situated male offenders. Female offenders were approximately 69% less likely to be incarcerated than were male offenders over the period of yearly data examined.

Each of the race/ethnic variables examined produced significant negative effects as compared to the Hispanic reference category. White offenders had the lowest b coefficient of -1.153, followed by the other category with a b coefficient of -.912. Black offenders experienced a b coefficient of -.709. Each of these coefficients indicated a negative relationship with the likelihood of being sentenced to prison. Odds ratio values were similar among the white and other race/ethnic categories. The odds ratio for white offenders was .316, which indicated that the odds

of imprisonment for this group of offenders were .316 times the odds of a similarly situated Hispanic offender. Odds of imprisonment for black offenders were .492 times the odds of a similarly situated Hispanic offender. For the other category, the odds ratio was .402. This value indicated that the odds of incarceration for these offenders were .402 times the odds of an equally situated Hispanic offender. Offenders within the other racial/ethnic category were 60% less likely to be sentenced to prison compared to Hispanic offenders.

Comparisons were also made between groups through an analysis of the resulting b values; a process by which the values were exponentiated and divided by the category being compared. Odds of incarceration for whites were approximately 78% of the others category; white offenders were about 22% less likely to be sentenced to prison than were offenders from the other racial/ethnic group. Compared to black offenders, whites were approximately 36% less likely to be sentenced to prison. Offenders from the other racial/ethnic category experienced odds of imprisonment that were 82% that of comparable black offenders; the other offenders were about 18% less likely to be sentenced than were the black offenders. In summary, the b values and odds ratios expressed all indicate that

Hispanics offenders were the group most likely to be sentenced to prison, followed by black offenders, and then the others category. White offenders were the group least likely to be incarcerated.

Hypothesis 1 predicted that black male drug offenders would experience the highest likelihood of incarceration among the examined racial/ethnic categories. This hypothesis was proven to be incorrect. Black males experienced the second highest odds of being sentenced to prison, behind the reference category of male Hispanic drug offenders who were the group most likely to be incarcerated during the years in question. White offenders experienced the least possible likelihood of imprisonment, followed by the other category of offenders.

Each of the age range categories expressed a significant effect on the likelihood of being incarcerated for the group of offenders under examination. Each of the age groupings produced positive b coefficients, which indicated positive relationships with the likelihood of being sentenced to prison. Those offenders less than 21 years of age had a b value of .259, while those 21 to 25 years of age had a b value of .350. Offenders within the latter four age categories experienced significant positive b values. The b value for offenders within the 26 to 30

category was .353. Offenders aged 31 to 35 experienced a b value of .386, while offenders in the 36 to 40 years of age category had a b value of .435. The oldest offenders, those found within the 41 to 50 category experienced a b value of .366. Each of the positive b values indicated a positive influence on the probability of incarceration for the older groups of offenders.

The odds of imprisonment for the youngest group of offenders, those less than 21 years of age, were 1.296 times the odds of similarly situated offenders in the reference age category of 50 and over. These younger offenders were 30% more likely to be sentenced to prison than were the eldest group of offenders. Offenders 21 to 25 years of age experienced odds of imprisonment that were 1.420 times the odds of similarly situated offenders from the reference category. The offenders aged 21 to 25 were 42% more likely to be sentenced. Odds of incarceration for offenders falling between 26 and 30 years of age were 1.423 times the odds of similarly situated offenders from the reference category. These offenders were 42% more likely to be sentenced to prison than were offenders aged 50 and over. The odds ratio for offenders within the 31 to 35 age category was 1.471 which indicated odds of imprisonment were 1.471 times the odds of those offenders 50 years and

older. The offenders aged 31 to 35 were 47% more likely to be sentenced than those offenders in the reference category. Offenders making up the fifth age category, 36 to 40 years of age, had an odds ratio of 1.545. This value indicated that their odds of incarceration were 1.545 times the odds of other similarly situated offenders greater than 50 years old. This category of offenders was 55% more likely to be sentenced than the offenders from the reference category.

The final age range examined, those offenders aged 41 to 50 years of age, experienced an odds ratio of 1.442. This indicated an odds of imprisonment at 1.442 times the odds of equally situated offenders from the eldest age category, those older than 50. The offenders who fell within the 41 to 50 years of age range were 44% more likely to be sentenced to prison than were the offenders greater than 50 years of age.

Compared to the offenders aged 41 to 50, those within the less than 21 years of age category, experienced odds of incarceration that were approximately 89.9% that of the eldest group. The youngest offenders were 10.2% less likely to be sentenced to prison compared to that group. Those less than 21 years of age were 16.1% less likely to be incarcerated compared to offenders aged 36 to 40 years

of age. A likelihood of 11.9% was found between the less than 21 age group and the offenders in the 31 to 35 age category. Compared to offenders between the ages of 26 and 30, those less than 21, were approximately 9% less likely to be imprisoned. Finally, the less than 21 years of age category were only 8.7% less likely to incarcerated compared to the offenders 21 to 25 years of age.

Offenders in the second youngest age category, those aged 21 to 25, experienced odds of incarceration that were 99.7% that of the offenders aged 26 to 30. This indicated that the 21 to 25 offenders were only .3% less likely to be sentenced to prison than the 26 to 30 category. Compared to the offenders aged 31 to 35, the offenders aged 21 to 25 were 3.5% less likely to be incarcerated. These offenders were found to be 8.1% less likely to be sentenced to a prison term compared to offenders between the ages of 36 and 40. Compared to the oldest group of offenders they were only 1.6% less likely to be sent to prison.

The likelihood of incarceration decreased across the groups up until the oldest category of offenders, aged 41 to 50, which experienced a slight drop compared to the preceding category of offenders. Compared to the reference category of offenders aged 50 and above, offenders aged 36 to 40 were the group most likely to be sentenced to prison,

followed by offenders aged 31 to 35. Those offenders aged 41 to 50 were the third most likely group to be incarcerated, followed by offenders aged 26 to 30, and subsequently, offenders aged 21 to 25. Offenders in the youngest age category, those less than 21, were the sixth most likely group to be incarcerated, last among the groups examined; every group experienced positive incarceration rates compared to the reference category.

Hypothesis 5 postulated that the younger categories of offenders, those from less than 21 years of age through 30 years of age, would experience higher odds of incarceration as compared to the older age groups. This hypothesis was confirmed to be false. For each of the age categories examined, apart from the reference category and offenders aged 41 to 50, there is a positive relationship between increased age and an increased likelihood of being sentenced to prison. The pattern does break at the group of offenders 41 to 50 years of age, but this group does still experience an increased probability of incarceration compared to the reference category of offenders over 50 years old; those offenders over 50 experienced the lowest odds of imprisonment.

Educational attainment, as examined within this study, is broken down into three different categories; those

categories were high school graduate, some college, and college graduate. Each of these attainment levels produced significant negative effects on the likelihood of being sentenced to prison for the drug offenders comprising the datasets under examination. The observed negative effect increased in line with the advancement in levels of educational attainment for each of the categories. Those at the higher end of the scale, those with college degrees, were found to have the most advantage in terms of the decreased likelihood of being sentenced to prison. High school graduates produced a b value of -.661, with an odds ratio of .517. Offenders whose education peaked with some college experience expressed a b value of -.945 and an odds ratio of .389. Finally, offenders who were college graduates had a b value of -1.190, with an odds ratio of .304.

The odds of incarceration for offenders with only a high school diploma were .517 times the odds of those equally situated offenders with a less than high school education. High school graduates were 48% less likely to be sentenced to prison than those offenders from the reference category that possessed less than a high school education. Offenders with some college level education experienced odds of imprisonment that were .389 times the

odds of equally situated offenders with less than a high school education. These particular offenders were 61% less likely to be sentenced to prison than were the offenders with less than a high school experience. College graduate offenders experienced an odds ratio of .304. This value indicated the odds of imprisonment for this group of drug offenders was .304 times the odds of similarly situated offenders who possessed less than a high school education. They were approximately 70% less likely, the lowest likelihood among educational attainment groups, to be sentenced to prison when compared to the reference group of offenders.

College graduates experienced odds of imprisonment that were about 59% that of the high school graduate offenders' odds. This value indicated that the offenders with a college degree, compared to those with only a high school diploma, were 41% less likely to be sentenced to prison. Compared to the some college category, offenders that were college graduates were approximately 22% less likely to be incarcerated. The some college category experienced odds of incarceration that were roughly 75% that of the offenders with only a high school diploma. This presented a likelihood of incarceration for offenders

with some college that was only 25% less than high school graduate offenders.

Hypothesis 2, as stated, proposed that increased levels of educational attainment would reduce the odds of being sentenced to prison across groups. This hypothesis was confirmed by the logistic regression results. Those offenders with the least amount of education, less than a high school diploma, comprised the group of offenders most likely to be sentenced to prison. Increased educational attainment had an inverse effect on the odds of incarceration. As education among offenders improved, the odds of being sentenced to prison diminished considerably. The lowest odds of imprisonment were experienced by offenders with college degrees.

Moving to the legal-type independent variables, it was discovered that those offenders who proceeded to trial experienced a significant increase in the odds of incarceration compared to those that did not. The resulting b value for the trial variable was .722, with an odds ratio of 2.058. Those offenders that had their cases heard before a jury experienced odds of incarceration that were 2.058 times the odds of equally situated offenders whose cases did not proceed to trial. They were 106% percent more likely to be sentenced to prison than the

group of offenders that did not take their cases to trial. It must be noted that the decision to proceed to trial could have been based on a number of different factors or case characteristics; the most important of which would be the seriousness of offense. This study included a final offense level variable as a control measure against potential selectivity bias in regards to the offenders' decision to proceed to trial.

The fourth hypothesis stated that those offenders whose cases proceeded to trial would experience a greater likelihood of incarceration than those offenders who did not. The logistic results confirmed that this hypothesis was correct. Offenders who have their cases decided by trial are at a considerable sentencing disadvantage compared to those offenders who take some type of plea agreement.

The presence of a prior criminal history resulted in a significant b value of .353, with an odds ratio of 1.423. These results indicated that those offenders with a previous criminal past incurred a greater disadvantage during sentencing than those that did not, as expected. The odds of incarceration for offenders with a criminal background were 1.423 times the odds of equally situated offenders without the presence of prior criminal record.

Also, they were 42% more likely to be sentenced to prison than were the group of offenders without a criminal history.

The application of a final offense level, which is represented within the analysis as a ratio level variable, is the final offense level applied to an offender's case by the court. The applications of such points are attributable to a range of 1 through 99, with the increasing offense levels equitable to more serious offenses. The resulting b value for this variable was .206, which indicated a significant positive effect on the likelihood of being sentenced to prison for the years of data under consideration. The odds ratio was 1.229.

The sixth hypothesis referenced two variables that were under examination within the study; the presence of a criminal history and the application of a final offense level. The hypothesis predicted that those offenders with a previous criminal history would be more likely to be sentenced to prison than those offenders without one. The application of a final offense level was also predicted to increase the odds of incarceration for offenders. As presented, this hypothesis was confirmed to be true on both accounts. The results indicated that the application of additional offense levels increased the odds of being

sentenced to prison for each additional level applied. The presence of a criminal history also produced an increase in the likelihood of being sentenced to prison.

The examination of various drugs types was performed in order to inspect potential disparities that may be present between offenders convicted and sentenced in association with differing drug types. All of the b coefficients, apart from the one produced by the methamphetamine offenders, were significant. Results for each variable are presented in order of increasing effect on the likelihood of being sentenced to prison. The other drug category produced a b value of -.708. This variable's odds value was .493, indicating that the odds of incarceration for offenders convicted in connection with an other category drug were .493 times the odds of similar situated offenders convicted in connection with the reference drug type; marijuana was the drug type used as the reference category during the creation of each of the variables. Other category offenders were 51% less likely to be sentenced when compared to marijuana offenders. The second lowest b value of -.380 was attributed to the drug cocaine (powder). It had an odds ratio of .684. The odds of imprisonment for cocaine offenders were .684 times the odds of equally situated offenders charged in connection

with marijuana. Cocaine offenders were 32% less likely to be incarcerated than were those convicted in connection with marijuana. The next highest b value of -.200 was produced by the offenders convicted in connection with the substance crack cocaine (non-powder). The odds of incarceration for these specific offenders were .819 times the odds of equally situated marijuana offenders. Crack offenders were 18% less likely to be sentenced to prison when compared to those offenders convicted in connection with marijuana related offenses. Convictions associated with the drug heroin resulted in a b value of -.126 and an odds value of .881. The odds of being sentenced to prison for these offenders were .881 times the odds of similarly situated offenders convicted in connection with marijuana. The heroin offenders were 12% less likely to be sentenced than the marijuana offenders. The highest b value and odds of imprisonment were found within the group of offenders, aside from the reference category, convicted in connection with methamphetamines. The resulting b value for this group was -.041, with an odds ratio of .960. Odds of incarceration for these offenders were .960 times the odds of equally situated marijuana offenders. Compared to the marijuana offenders, those convicted on a methamphetamine offense were 4% less likely to be sentenced to prison.

Comparisons of the various drug categories between each other were conducted in reference to the drug which presented the highest likelihood of incarceration among offenders, methamphetamine. Compared to the methamphetamine offenders, cocaine offenders experienced odds of imprisonment that were 71% that of the methamphetamine group. The cocaine offenders were approximately 29% less likely to be sentenced to prison compared to the methamphetamine offenders. Crack offenders experienced odds of being sentenced to prison that were 85% that of the methamphetamine offenders. Crack offenders were 15% less likely to be sentenced when compared to those offenders sentenced in connection with methamphetamines. Those offenders convicted in associated with heroin experienced odds of incarceration that were about 92% of the methamphetamine group. Heroin offenders were about 8% less likely to be sentenced to prison. Compared to methamphetamine offenders, those sentenced in connection with an other category drug experienced odds of incarceration at 51%. The other category drug offenders were about 49% less likely to be sentenced to prison.

Hypothesis 7 predicted that a conviction associated with the drug crack cocaine would result in the highest odds of incarceration for offenders among all other types

of drugs. This hypothesis was not supported by the logistic regression results. The highest likelihood of being sentenced to prison, among the drug types examined, was not associated with the drug crack, but rather with marijuana.

The next set of variables under examination was developed to showcase the overall change in the likelihood of incarceration for the totality of cases present for each of the years under consideration within the study. The six resulting dummy variables were created using the data from 1999-00 as the reference category. Aside from the 2000-01 dataset, each of the years under examined produced significant results. The b value for the 2000-01 data year was -.019, with an odds value of .981. This indicated a very slight, but insignificant, negative impact of the year 2000-01, meaning that the likelihood of being sentenced in 2000-01 was on average slightly lower than that in the reference year, i.e., the year 1999-99. The years of 2001-02 and 2002-03 both produced positive b values, .099 and .228, respectively, indicating a slight to moderate increase in the likelihood of being incarcerated for these particular years' offenders, as compared to those sentenced in 1999-00. The 2001-02 data produced an odds value of 1.104, while the 2002-03 data's odds value was 1.257.

Offenders in the year 2001-02 were on average 10% more likely to be sentenced to prison than were equally situated offenders in the year 1999-00; Offenders in the year 2002-03 were 26% more likely to be sentenced to prison than offenders in the reference year of 1999-00. The year of 2003-04 was associated with a b value of .312 with a corresponding odds ratio of 1.366. Offenders sentenced in 2003-04 were on average 37% more likely to be incarcerated. Offenders convicted during the 2004-05 data year experienced a b value of .278. These offenders were 32% more likely to be sentenced to prison when compared to the offenders from the 1999-00 data year. The largest b value of .349 was associated with the year 2005-06. The resulting odds ratio of 1.417 indicated that the odds of offenders being sentenced to prison in 2005-06 were 1.417 times the odds of equally situated offenders in 1999-00. The 2005-06 offenders were 42% more likely to be sentenced to prison than were the offenders from the first period of data under examination.

The resulting b values for each of the yearly datasets were compared in order to ascertain the disparity present between each time point. Offenders sentenced during 2000-01 experienced odds of incarceration that were 89% that of the offenders sentenced during the 2001-02 data year.

Compared to those sentenced during 2002-03, 2000-01 offenders experienced odds of imprisonment that were 78% of the 2002-03 offenders. The 2000-01 offenders were 22% less likely to be incarcerated. Moving to the data year of 2003-04, offenders from the 2000-01 were 28% less likely to be sentenced to prison. 2000-01 drug offenders experienced odds of imprisonment that were 74% of the odds incurred by the 2004-05 group of offenders. 2000-01 offenders were 26% less likely to be incarcerated compared to the 2004-05 group of offenders. Compared to the offenders from the final data period, 2000-01 offenders experienced odds of imprisonment that were 69% of those encountered by the 2005-06 group.

Moving to the second data period examined in the study, the group of offenders sentenced during the months of 2001-02. These offenders experienced odds of imprisonment that were 88% of the 2002-03 group. Compared to the data period of 2003-04, the 2001-02 offenders experienced odds of imprisonment at 81% of the comparison group. The offenders in 2001-02 were almost 20% less likely to be sentenced to prison than those from the 2003-04 period. 2001-02 offenders were 16% less likely to be incarcerated compared to the offenders from the 2004-05 data period. Finally, compared to the decision period of

2005-06, the offenders in 2001-02 were 22% less likely to be sentenced to prison.

Offenders from the 2002-03 dataset experienced odds of imprisonment that were 92% that of the offenders sentenced during the yearly period of 2003-04. Compared to offenders from the 2004-05 dataset, 2002-03 offenders were only 5% less likely to be sentenced to prison. 2002-03 offenders encountered odds of imprisonment that were 89% of those experienced by the 2005-06 group of offenders. In this case, the 2002-03 offenders were 11% less likely to be incarcerated.

Offenders sentenced during the yearly period of 2003-04 experienced odds of incarceration that were 96% of those encountered by the 2005-06 group of offenders. 2003-04 offenders were only 4% less likely to be sentenced to prison in this case. Offenders within the 2004-05 dataset experienced odds of imprisonment at 97% of the 2003-04 offenders. They experienced odds of imprisonment at 93% of the 2005-06 group. Compared to the former group, the 2004-05 offenders were only 3% less likely to be incarcerated and 7% less likely for the latter group comparison.

The resulting values indicated a steady increase in the likelihood of incarceration for the first three yearly periods examined. A slight decrease was experienced during

the period of 2004-2005. The likelihood of imprisonment increased to its highest point during 2005-06. Additional analysis would need to be conducted with 2006-07 data and on in order to determine if the upward trend continued. This study's results indicated that the Supreme Court decision of 2005 expressed little influence on the probability of incarceration for the 2005-06 data year. The likelihood actually increased to its highest level among all the yearly periods examined during that time.

The eighth hypothesis involved examination of the likelihood of being sentenced associated with each of the data years involved in the study. Based on the fact that the Supreme Court decision made the sentencing guidelines no longer mandatory, it was predicted that those offenders sentenced during the 2005-06 data year would experience the least likelihood of being sentenced to prison. Based on the results, this hypothesis was not confirmed. Drug offenders from the 2005-06 data year were those most likely to be sentenced to prison among of the data years examined.

In order to examine in more detail the relationship between gender and educational attainment three interaction terms were developed and included within the analysis. The terms involved the dichotomous gender variable being crossed with each of the different levels of educational

attainment; these levels were high school graduate, some college, and college graduate.

The first interaction term to be examined involved the combination of the high school graduate educational attainment level and gender. The resulting b value of .358 and odds ratio of 1.430 indicated a less pronounced effect on the likelihood of being sentenced to prison among female drug offenders. The gender difference is reduced among those with high school diplomas, as compared to those offenders with less than high school educations. This is shown by comparison of the female offenders' odds ratio of .740 and the male value of .520. The female value is determined by adding the b value from the first stage of the analysis to the value of the first interaction term. This value of -.303 was exponentiated into the odds ratio of .740. The male value is simply the odds ratio from the first portion of the analysis.

Examining the some college level of educational attainment produced similar results. The interaction term produced a b value of .287, which equated to an odds ratio of 1.333. Specifically, females experienced an odds ratio of .520 and males an odds ratio of .380. These values indicated a more pronounced decreasing effect for male drug offenders on the likelihood of incarceration.

The college graduate attainment level provides results similar to those of the previous levels. Female drug offenders with a college degree experienced an odds ratio of .560, while their male counterparts had an odds ratio of .300.

Overall, each of the levels of educational attainment examined provided evidence to support to conclusion that the advantage associated with education, being less likely to be imprisoned as education increases, is more pronounced among male drug offenders. This finding offers support against hypothesis 3. Female offenders did not experience the greatest advantage in terms of sentencing probability and increased educational attainment.

ORDERED LOGISTIC REGRESSION

Results from the ordered logistic regression analysis are presented in Table 2 on page 63. The sentencing categories examined here were probation or less than two years, equal to or greater than two years through less than four years, equal to or greater than four years through seven years, equal to or greater than seven years through eleven years, and sentences greater than or equal to eleven years. Due to zero values across the dependent variable for several of the independent variables examined, 37,723

cases were not part of the analysis. The final number of cases processed through the ordered logistic regression was 168,578. It must also be noted that the interval level variable which represented offenders' final offense level was not included in this analysis due to its effect on the number of cases with zero frequencies. Hypothesis conclusions are disclosed following the specific variable result sections.

The gender variable resulted in an estimate of -1.037. This indicated that for female drug offenders the log odds of being placed into a higher sentencing range were decreased -1.037 times compared to similarly situated male offenders. Odds ratios were calculated by raising the e to the power of the resulting coefficient estimate. For females the odds of being sentenced into a higher range category were .354 times the odds of equally situated male offenders.

Each of the race variables produced significant estimates; whites and others were negatively associated with being placed into a higher sentence length category. White drug offenders experienced a coefficient value of -.415, with an odds ratio of .660.

Table 2: Ordinal Regression Results

r2= .358 - Cox
r2= .374 - Nagelkerke

	Model I			
	b	S.E	Odds	
Female	-1.037	0.020	0.354	***
White	-0.415	0.013	0.660	***
Black	0.178	0.014	1.195	***
Other	-0.388	0.030	0.678	***
Aged <21	-0.920	0.028	0.399	***
Aged 21 to 25	-0.369	0.022	0.691	***
Aged 26 to 30	-0.026	0.021	0.975	
Aged 31 to 35	0.085	0.022	1.088	***
Aged 36 to 40	0.058	0.023	1.060	*
Aged 41 to 50	0.051	0.022	1.052	*
High School Graduate	0.015	0.011	1.016	
Some College Exp.	-0.146	0.015	0.864	***
College Graduate	-0.293	0.031	0.746	***
Decision by Trial	2.123	0.025	8.360	***
Prior Criminal History	0.743	0.011	2.102	***
Drug - Cocaine	1.638	0.014	5.145	***
Drug - Crack	2.383	0.017	10.836	***
Drug - Heroin	1.330	0.019	3.781	***
Drug - Meth	2.285	0.015	9.828	***
Drug - Other	0.688	0.025	1.989	***
Data Year 2000-01	0.024	0.017	1.024	
Data Year 2001-02	0.046	0.017	1.047	***
Data Year 2002-03	0.068	0.017	1.071	***
Data Year 2003-04	0.236	0.017	1.267	***
Data Year 2004-05	0.178	0.017	1.195	***
Data Year 2005-06	0.241	0.017	1.273	***
HS Grad. by Female	-0.080	0.031	0.923	*
Some College by Female	-0.087	0.039	0.916	*
College Grad. by Female	0.052	0.089	1.053	

* - p < .05
** - p < .01
*** - p < .001

These values indicated that white offenders experienced a decrease of .415 in the log odds of being sentenced into one of the higher categories as compared to comparable Hispanic offenders. White offenders experienced odds of this event at .660 times the odds of similarly situated Hispanic offenders, the reference category. Other offenders encountered a decrease in log odds of -.388. These offenders experienced odds of being placed into a higher sentencing category at .678 times the odds of those similarly situated Hispanic offenders. Black drug offenders experienced an increase of .178 in the log odds of being sentenced in an upper category. These offenders experienced odds of such an event at 1.195 times or 20% higher compared to the odds that Hispanic offenders encountered. White offenders were the group least likely to be sentenced into one of the upper range categories. Others were the second least likely group to be placed into one of the longer sentencing range categories. Hispanics were the third least likely group to experience sentencing in one of the upper level categories. Of the four groups examined, black drug offenders experienced the highest likelihood of placement into one of the higher level categories.

Hypothesis 1 predicted that black male drug offenders would experience the highest likelihood of incarceration into one of the upper sentencing range categories among the examined racial/ethnic categories. This hypothesis was proven to be valid. Black drug offenders experienced the highest increase in the log odds of being sentenced to an upper category prison term. Among the racial/ethnic categories examined, black offenders, were the only group to have a positive coefficient estimate, as compared to the reference category. This value indicated the group's relationship with the reference category of Hispanic offenders was that of greater odds to being placed into the upper category. More precisely, black offenders experienced odds that were 1.196 times that of similarly situated Hispanic drug offenders.

From within the age range categories five of the six categories resulted in significant coefficient estimates. The lowest log odds associated with being placed into a higher sentencing category were found within the first three age ranges. Those offenders less than 21 had the lowest coefficient estimate of -.920 with an odds ratio of .399. Offenders who were between the ages of 21 and 25 had the second lowest value of -.369, with an odds value of .691. Offenders in the third youngest age category, 26 to

30, experienced an estimate of -.026, with an odds value of .975. The offenders less than 21 years of age experienced odds of being placed into a higher sentencing category at .399 times the odds of similarly situated offenders from the reference category, offenders older than 50 years of age. Offenders 21 to 25 encountered odds at .691 times those experienced by the offenders over 50. The third category experienced odds of being sentenced into a higher category at .975 times the odds of the reference age category, although the difference is statistically not significant. Offenders between the age of 31 and 35 produced an estimate of .085 that indicated these offenders experienced an increase in the log odds of being placed into an upper level sentencing category. The odds ratio for this group of offenders was 1.088. Odds of being sentenced into a higher category among offenders 31 to 35 years of age was 1.088 times the odds of offenders 50 years of age and older. Slightly lower and less significant estimates and odds ratios were produced by the final two age categories. Offenders aged 36 to 40 experienced an increase of .058, while those offenders between the ages of 41 and 50 saw an increase of .051, in the log odds of being sentenced into a higher sentencing category. Both categories experienced similar odds ratios at levels of

1.060 for offenders aged 36 to 40 and 1.052 for offenders aged 41 to 50. These odds ratios indicated that these two age categories experienced odds of being sentenced in one of the higher length categories at 1.060 times and 1.052 times the odds experienced by offenders from the reference age category.

The sixth hypothesis in this section of the analysis proposed that the younger offenders, those less than 21 through 30 years of age, would be more likely to be sentenced to an upper sentencing category than would the older groups of offenders. The regression results indicated that the first three age groupings of offenders all experienced decreases in the log odds of being sentenced into an upper range category. All three groups also experienced odds that were a fraction of the reference category. The latter three age groupings all presented positive increases in the log odds as well as odds that were greater than those experienced by the reference category. Based on these results, this hypothesis was shown to be not supported; the younger offenders appeared to have an advantage (lower odds) over the older offenders in the likelihood of being sentenced to an upper range prison term.

The educational attainment variables returned significant coefficient estimates at the two highest levels used within the analysis, some college experience and possession of a college degree. High school graduates experienced a negligible increase of .015 in the log odds of placement into a higher sentencing category. Odds for these offenders were 1.016 times the odds experienced by offenders with a less than high school education, but not significant. Offenders with some college education produced an estimate of -.146 that indicated a decrease in the log odds of being placed into a higher sentencing length category. This group experienced an odds ratio of .864, which indicated that their odds of being placed in an upper range category were .864 times, or 14% lower in, the odds experienced by offenders with less than a high school education. Offenders with a college degree expressed a coefficient estimate of -.293. The odds ratio produced by this group of offenders was .746. This value indicated that the odds of being sentenced to a lengthier prison term for the college graduates were .746 times the odds of those offenders with a less than high school educational background.

Hypothesis 2 proposed that increased levels of educational attainment would reduce the odds of being

sentenced to one of the upper range sentencing categories. The ordered logistic results indicated that as education increased, the log odds of being placed into an upper category decreased, as did the odds ratios. The high school graduate offenders experienced values that placed them approximately even with the reference category of offenders with a less than high school education. From this point though, increased educational attainment produced a negative effect on the dependent variable.

Moving on to the variables expressing the various legal aspects under examination by the study, it was found that coefficient estimates for offenders who proceeded to trial, and those with a previous criminal history, indicated a significantly more likely chance to be sentenced for longer periods of time. Offenders who did not take a plea of any kind and who proceeded to partake in a trial were associated with odds of being sent to prison that were 8.360 times the odds for comparable offenders who accepted a plea agreement.

The fourth hypothesis predicted that those offenders whose cases proceeded to trial would experience a greater likelihood of incarceration into one of the higher sentencing categories than those offenders who accepted a plea agreement. The results confirmed that this hypothesis

was valid. Offenders who had their cases decided by trial experienced a considerable increase in both the log odds and odds ratio of being incarcerated in one of the lengthier range sentencing categories.

Offenders with a previous criminal history experienced an increase of .743 in the log odds of being sentenced in one of the higher length prison term categories. This group of offenders experienced odds that were 2.102 times the odds experienced by those offenders without a prior criminal history.

Hypothesis 5 proposed that the presence of a prior criminal history would result in the increased odds of being placed into an upper level sentencing category. The results indicated that this hypothesis was valid; that offenders with a previous criminal history experienced an increase in both the log odds and odds of being incarcerated at one of the higher length sentencing levels.

The type of drug associated with each offender conviction was also examined. All of the drug types examined showed significantly positive effects on the dependent variable. Offenders convicted in connection with the drug cocaine (powder) experienced an increase of 1.638 in the log odds of being sentenced into a higher sentencing category. Cocaine offenders encountered odds of this event

that were 5.145 times the odds experienced by the reference category of marijuana offenders. Heroin offenders produced a coefficient estimate of 1.330, with an odds ratio of 3.781. The first value indicated that heroin offenders experienced an increase of 1.330 in the log odds of being given a prison term in one of the higher level categories. Heroin offenders experienced odds of being placed into the higher category that were 3.781 times the odds encountered by marijuana offenders. Offenders convicted in connection with other drugs experienced an increase of .688 in the log odds of being sentenced to an upper level prison term. The odds encountered by this group were 1.989 times the odds experienced by offenders convicted in connection with marijuana. The largest increases in log odds were associated with crack cocaine (non-powder) and methamphetamine offenders. Crack offenders experienced an increase of 2.383 in the log odds of being placed in one of the higher sentencing categories, while methamphetamine offenders experienced a similar increase of 2.285. Methamphetamine offenders experienced odds of placement into a higher category that were 9.828 times the odds encountered by equally situated marijuana offenders. Offenders with crack related convictions experienced odds

that were 10.836 times those experienced by similarly situated marijuana offenders.

Hypothesis 7 predicted that a conviction associated with the drug crack cocaine would result in the highest odds of incarceration into a lengthier sentencing category compared to the other examined drug types. This hypothesis was confirmed to be true by the results. All of the drugs that were examined showed significant increases in log odds and odds ratios over the reference category of marijuana offenders. The drug crack expressed the highest increase among the drug types examined, followed closely by the drug methamphetamine. Crack offenders were the most likely to be incarcerated into an upper length category.

The last set of variables examined was the dummy variables indicating the specific year in which offenders were sentenced. These yearly variables were created to examine the actual change in sentencing placement from year to year. The data year of 2000-01 was the only non-significant result. Offenders sentenced during this time period experienced an increase of .024 in the log odds of receiving a prison term in an upper level category. They encountered odds that were 1.024 times those experienced by similarly situated offenders sentenced during the 1999-00 data year. Offenders sentenced during 2001-02 experienced

an increase of .046 in the log odds of being sentenced into an upper level category. This group of offenders encountered odds that were 1.047 times those experienced by the 1999-00 offenders. The 2002-03 group of offenders produced a coefficient estimate of .068, which indicated an increase of .068 in the log odds of being sentenced to a term in an upper level category. This group experienced odds that were 1.071 times those of similarly situated offenders from the 1999-00 data year. Beginning with 2003-04, there was considerable increase in the produced estimate compared to the previous three years. Drug offenders sentenced during 2003-04 experienced an increase of .236 in the log odds of being placed into a higher sentencing length category. This group of offenders experienced odds that were 1.267 times those encountered by equally situated offenders sentenced during 1999-00. Offenders sentenced during 2004-05 saw an increase of .178 in the log odds of being sentenced to an upper level prison term. Odds for these offenders were 1.195 times those experienced by similarly situated offenders from 1999-00. The first year of sentences handed down following the Supreme Court decision are represented by the 2005-06 data year. The offenders sentenced during this period had the highest coefficient estimate among all of the years

examined. Offenders experienced an increase of .241 in the log odds of being sentenced into an upper level term length category. The odds of these offenders being placed in the upper categories were 1.273 times the odds experienced by like offenders sentenced during the 1999-00 data year.

These results indicated a similar pattern as did the logistic results from the first stage of analysis. There was a steady increase in the likelihood of being sentenced into one of the longer length sentencing categories from 2000-01 through 2003-04. The likelihood then decreased in 2004-2005 by about 25%, only to rise and regain the lost 25% in 2005-06.

The eighth hypothesis examined the various likelihoods of being placed into an upper sentencing category associated with each year of data utilized by the study. Each of the data periods from 2000-2006 experienced increased coefficient estimates and odds ratios compared to the data period of 1999-00 that acted as the reference category. The hypothesis predicted that offenders sentenced during the 2005-06 data year, following the Supreme Court decision of the previous year, would be less likely to be sentenced into an upper range category. The resulted indicated that this was false. In fact, offenders sentenced during the 2005-06 data period experienced the

greatest increase in log odds value and odds ratio compared to all of the other yearly periods examined. This group of offenders was the most likely to be sentenced into one of the upper prison length categories.

The ordered logistic results continued the use of the interaction terms form stage one of the analysis, which involved educational attainment and gender. The resulting beta coefficient estimate for the first interaction term of high school graduate by gender was found to be -.080, which produced an odds ratio of .923. Female drug offenders experienced an odds ratio of .940 in relation to placement into an upper level sentencing category, while their male counterparts encountered an odds value of 1.015. There was little difference between the female and male drug offenders with a high school diploma and those offenders with a less than high school education. Again, the female ratio is determined by adding the b value from the gender variable to the value of the first interaction term and then exponentiated into the odds ratio. The male value is simply the odds ratio from the initial portion of the ordered analysis.

The second level of educational attainment examined was some college education. The interaction term produced a coefficient estimate of -.087, with an odds ratio of

.917. Female offenders with some college education experienced an odds ratio of .790, while males with similar educational attainment experienced an odds value of .864. In this situation, the values indicated that there was a more pronounced decreasing effect for female drug offenders in their likelihood of placement into an upper range sentencing category.

The college graduate attainment level provided results that indicated a relatively small difference between the genders in relation to those offenders with a less than high school education. Female offenders with college degrees encountered an odds ratio of .786, while males with college degrees experience an odds ratio of .746.

In general, the interaction results from the ordered logistic regression presented an additional set of interesting findings. The first and third categories were relatively close to one another, indicating that the differences between those categories and the less than high school educational group was less evenly pronounced for both males and females. The some college category did indicate that females had a small advantage over their male counterparts. Overall though, the advantage that comes with increased educational attainment did not favor either male or female offenders strongly in any direction.

However, the interaction terms for the first two categories did produce negative coefficient estimates, which do indicate the presence of a decreasing effect. These results did not offer a precise enough picture to be able to determine the validity of hypothesis 3.

The ordered logistic coefficients were compared among their like variable groups, as was conducted within the first stage of the analysis with the binary logistic results.

The first group of variables examined was offenders' age, with a focus placed on the youngest age category of offenders. Those offenders in the youngest category, less than 21 years of age, experienced odds of being placed into one of the higher length sentencing categories at 58% of the odds experienced by offenders aged 21 to 25. Offenders under 21 were 42% less likely to be sentenced into one of the longer sentencing categories. Offenders less than 21 years of age experienced odds that were 41% of those encountered by the group of offenders aged 26 to 30. Compared to the offenders aged 31 to 35, those less than 21 encountered odds of placement into one of the lengthier sentencing ranges at 34%. Offenders less than 21 were 63% less likely to be sentenced to one of the higher sentencing

categories than offenders 31 to 35, 62% less likely than offenders 36 to 40 and 41 to 50.

The general idea expressed through these particular results is that the younger the offenders were, the less likely they were to be placed into one of the longer length sentencing categories.

Education was the next variable in which odds ratios were calculated and compared. Offenders with a college degree encountered odds of being sentenced into one of the higher sentencing categories at 73% of the odds experienced by offenders with a high school diploma. The drug offenders with college degrees were 27% less likely to be sentenced to a prison term in one of the upper range categories. The some college offenders were 14% less likely to be placed into one of the higher sentencing categories compared to the high school graduate group.

The drug categories were examined in reference to the drugs with the highest log odds values. The drug with the highest log odds estimate, and subsequently odds ratio value, was crack cocaine (non-powder). The drug crack was followed by methamphetamine, and finally powdered cocaine. Cocaine offenders experienced odds of being sentenced into one of the higher range sentencing categories at 47% of the odds encountered by crack offenders. Powder cocaine

offenders were 53% less likely to be sentenced into one of the higher length categories compared to crack offenders. Heroin offenders were 27% less likely to be placed into one of the higher level sentencing categories compared to cocaine offenders. Heroin offenders were 65% less likely to be sentenced into an upper category compared to crack offenders. Heroin offenders were 62% less likely to be sentenced into one of the upper length categories compared to methamphetamine offenders. Methamphetamine offenders were 9% less likely to be sentenced into of the upper categories than crack offenders. These results indicate that there still remains a clear disadvantage for offenders convicted in association with crack cocaine. In each case, every drug other than crack experiences a lesser likelihood of being placed into an upper level sentencing category.

The final set of variables examined were the yearly data variables which represented the relative change in log odds based on the year in which the offender was sentenced. The first significant year of data present was from the yearly period of 2001-02 and serves as the starting point of the odds comparisons. Offenders sentenced during 2001-02 experienced odds of being placed into one of the lengthier sentencing categories at 98% of the odds experienced by offenders sentenced in 2002-03. 2001-02

offenders experienced odds of sentencing at 83% of the 2003-04 offender group. In this case, offenders from 2001-02 were 17% less likely to be sentenced to an upper length sentencing category. Compared to offenders sentenced during 2004-05, the offenders from 2001-02 experienced 88% of the odds of being sentenced to one of the higher sentencing categories. Offenders sentenced during 2001-02 encountered odds that were 82% of those experienced by offenders sentenced during 2005-06 in relation to placement into one of the higher sentencing categories. The 2001-02 offenders were 18% less likely to receive a sentence in one of the higher categories.

The 2002-03 offender group experienced odds of placement into one of the lengthier sentencing categories at 85% of the odds experienced by offenders from the 2003-04 data year. In comparison to offenders sentenced during 2004-05, 2002-03 offenders encountered odds that were 90% of the odds experienced by the former group. The 2002-03 offenders' odds of being placed into one of the upper level sentencing length categories were 84% of the odds experienced by offenders from 2005-06. The 2002-03 offenders were 15% less likely to be sentenced to an upper sentencing length category compared to offenders from 2003-

04; 10% less likely than 2004-05 offenders and 16% less likely than offenders from the 2005-06 data year.

The final data periods examined, 2003-04 and 2004-05, expressed considerable less difference between each other and the later data years than the years previously compared. Offenders sentenced during 2003-04 experienced odds of being sentenced into one of the higher sentencing categories at 99.5% of the odds encountered by 2005-06 offenders. 2004-05 offenders experienced odds at 94% of the 2005-06 offenders and 94% of the 2003-04 offenders. In each case, offenders sentenced during 2004-05 were 6% less likely to be sentenced into one of the higher ranking sentencing categories.

Each of the sentencing years examined presented positive coefficient estimates in relation to the yearly reference period of 1999-00. The 2005-06 offenders were those most likely to experience placement into one of the upper level categories during sentencing. The second most likely sentencing year was 2003-04, followed by 2004-05. The forth most likely group of offenders to experience placement into one of the higher range categories was from 2002-03. This group was followed by 2001-02, and finally by 2000-01.

CHAPTER VI

DISCUSSION

This study is unique from previous research in that it utilized sentencing data at the federal level and for a period of seven years. During the period of time covered by the analyses two very important Supreme Court decisions were made that specifically altered the way sentencing guidelines were to be used. The decision that occurred in 2005 amended the strict nature of the guideline system so that future applications of the guidelines would solely be auxiliary in nature. The Supreme Court decision of 2007 (FindLaw 2007) directly targeted the sentencing of drug offenders. This particular decision was a direct attempt to dissipate the racial disparity present among offenders in relation to crack cocaine and powder cocaine convictions. The court's decision now allows for judges to sentence offenders convicted in connection with powder cocaine to prison terms that are potentially greater than what the previous guidelines stipulated; as well as allowing for greater parity to exist with offenders sentenced in connection with crack cocaine.

The present study is one of the first to analyze federal data for years both prior to the Supreme Court's

decision and after it. Much of the results presented find support from prior research in similar areas of sentencing decisions, as well as contribute to uncovering new areas of disparity. The data indicated that both legal and extra-legal factors continue to contribute to sentencing disparity as it is experienced by drug offenders sentenced at the federal level. The regression results for both stages of analysis showed considerable levels of disparity in the majority of variables examined.

The study's results are able to support previous research that minority offenders do receive harsher sentences than non-minorities (Albonetti 1997; Hebert 1997; Steffensmeier and Demuth 2000, 2001; Everett and Wojtkiewicz 2002). Hispanic offenders were found to be more likely to be sent to prison, while black offenders were more likely to be sentenced into one of the higher sentencing categories. This finding supports the work of Steffensmeier et al. (1998) in that black males were sentenced more severely than whites or females. As with previous research, the presence of a criminal history and the final offense level applied, which goes towards determining severity of the offense, weigh heavily on the odds of imprisonment and the placement into higher sentence length categories.

This study found that for in/out decisions, the likelihood of being sentenced to prison was at its highest for Hispanic offenders, followed by black offenders, other offenders, and finally white offenders. For placement into higher length sentencing categories the order changes to place black offenders ahead of Hispanic offenders, followed by other offenders, and then white offenders.

Age results from this study indicated that there was a penalty associated with the older offenders, up to the reference category of offenders 50 years of age and older, and their likelihood to be sentenced to prison more than younger offenders. Each of the age categories examined were found to be more likely to be sentenced to prison compared to offenders 50 years of age and above. Among these categories however, the offenders less than 21 years of age was the group least likely to be sentenced to prison; this supports the finding by Smith (1986) that younger offenders receive advantageous sentencing decisions. The ordered logistic regression results indicated that the youngest group of offenders was the least likely of all the groups to be sentenced into one of the longer length sentencing categories. The older three categories, beginning with offenders 31 to 35, were at the

most risk to be sentenced to longer prison terms, compared to the reference category of offenders older than 50.

The gender results within this study are met with mixed support from previous literature. Koons-Witt (2002) found that gender was not a considerable factor on the decision to imprison. Nagel and Hagen (1983) found a small effect that suggested female offenders experienced advantageous leniency more than males did. The current study found that gender had a significant role on both the likelihood of incarceration and the placement of offenders into higher sentencing length categories. Female drug offenders experienced decreasing effects on both of these options. The results found by the present study could also be attributed to the small number of female offenders within the sample compared to the number of male offenders. Approximately 13% of the sample was female.

This study's focus on the effect of educational attainment on sentencing outcome and length is unique to the extent that there is only a small amount of similar prior research; an even smaller amount that utilized federal level data. Albonetti (1997) found that individuals with at least a high school education received more lenient sentences than those offenders with a less than high school education. These results are confirmed

within the present study. In both stages of this study's analysis it was found that as education levels increased the odds associated with incarceration decreased considerably. The same effect was uncovered in regards to convictions into the higher sentencing categories; offenders with the highest levels of education were those least likely to be sentenced into one of the longer range categories. Lochner and Moretti (2004) predicted that increased education among key age groups, would decrease these groups' propensity for criminal activity; leading to a drop in their odds of being incarcerated.

The penalty for deciding to proceed to trial was discovered to have a considerable effect on both the likelihood of being sentenced to prison and the length of sentence received. This finding has support in the work of Steffensmeier and Demuth (2000) and Johnson (2003, 2005). Drug offenders who decided to proceed to trial experienced approximately double the odds of potential incarceration that was experienced by those offenders who made a plea agreement. It must also be mentioned that this study does not take into account the reasoning behind why an offender may decided to proceed to trial. It is entirely possible that those who proceed to trial would be at a distinct disadvantage during a plea agreement, or much simpler, the

crime committed did not warrant a plea offer from the prosecution; the most serious of crimes had to proceed to trial. This study does make use of offense level and criminal history controls, but these variables do not necessarily provide any additional insight into the potential reasoning behind proceeding to trial versus accepting a plea agreement.

An additional set of key findings was associated with the various types of drug convictions examined. Offenders convicted in association with marijuana experienced the highest odds of imprisonment, but had the lowest odds of placement into one of the longer sentence length categories. One potential factor of this very unique finding could be related to the previous mandatory nature of the sentencing guidelines. Perhaps federal marijuana offenders were being given plea agreements which would in turn equate to a conviction, but be accompanied by a reduction in sentence length. The dataset characteristics do provide some evidence for this explanation; of the 48,341 marijuana offenders, all but 1299 received some type of plea agreement.

This study did not examine the effect race had on these various convictions, so no group specific interpretations can be made. Methamphetamine convictions

were associated with the second highest odds of incarceration and being sentenced to a higher length category. Heroin offenders experienced the third highest likelihood of being sentenced to prison, but in regards to placement into one of the higher sentencing categories, these offenders were fourth, behind cocaine offenders. Offenders convicted in connection with an other category drug experienced the least likely odds of imprisonment and second least likely odds of being sentenced into a higher length category. The results for the other category of drug offenders remain ambiguous however, due to the fact that it is unknown what exactly signifies an other category drug (the datasets utilized within this study never prefaced exactly what drug types are considered part of the other category).

The data years examined presented a unique picture of the likelihood of incarceration experienced by drug offenders, both before and after the Supreme Court decision of 2005. Beginning with 2000-01, there is a steady increase in the odds of incarceration for drug offenders through 2003-04. There is a small decrease in the odds for the year of 2004-05, but then a sharp increase for the year of 2005-06. Drug offenders sentenced during 2005-06 experienced the highest likelihood of incarceration among

all of the years examined. In regards to the sentence length categories, a similar pattern was uncovered. There is a steady increase in the log odds of placement into higher sentencing length categories, beginning with the year 2000-01 through 2002-03. The data period of 2003-04 experienced an increase of 245% in the log odds over 2002-03; there was an increase of 18% in the odds of placement into a higher category from 2002-03 to 2003-04. Again, there was a slight decrease of 25% in the log odds value from 2003-04 to 2004-05. Finally, the data year of 2005-06 experienced an increase of 35% in the log odds compared to the 2004-05 sentencing year. The odds experienced in 2005-06 are only .5% higher than those experienced by drug offenders in 2003-04.

This study also looked at three interaction effects based on offenders' gender and their educational attainment. For the logistic stage of analysis, the results indicated that the effect of educational attainment, as it contributes to a decreased likelihood of incarceration, is more evident among the male drug offenders.

The interaction results from the second stage of analysis were not as clear cut as the first. The some college level of education attainment was the only area

that showed any separation between the sexes. Here, females did have a small advantage over likely situated male offenders. Overall, the results were not conclusive in any particular gender direction.

It should also be noted once more that this study utilized only federal offenders sentenced on drug related charges. Broader comparisons in relation to other categories of offenses, if made at all, should be analyzed carefully with this in mind.

CHAPTER VII

CONCLUSION

The current study provides evidence in support of the continued existence of both legal and extra-legal disparity in the sentencing of drug offenders at the federal level. The continued disparity that exists following the initial Supreme Court decision of 2005 should be cause for concern among the sentencing commission and policy makers. It will take additional analysis of the most current years' sentencing data to make a more definite conclusion as to the effectiveness of the ruling. The same can be said for the decision of the court in 2007. When the latest data is released and adequate analysis can be performed, then it will be possible to gauge the effectiveness of the decision's ability to curb unwarranted sentencing disparity, particularly in relation to cocaine offenses.

One only needs to examine the total number of individuals currently being housed in U.S prisons on drug related charges to see that incarceration rates remain out of proportion to the general population. Of the total 467,791 cases present during the period of 1999 through 2006, from which the cases for the present study were drawn, a total of 179,436 are drug related. Approximately

38% of the entire federal sample is represented by drug related convictions. The actual number of drug related cases that were sentenced each year during the seven year period stayed roughly the same, increasing only by a thousand or so cases from 1999 to 2006. The percentage of each sample convicted on drug charges also remained consistent. Future research should be directed at the next data year available that will consist of offenders sentenced following the latest Supreme Court decision of 2007. Instead of the direct analysis of race and gender, further research into the interaction between the two may help to bring to light additional factors and disparities not detailed in the present study. Additional attention should also be levied at the interaction between race and the drug type associated with the conviction, especially following the most recent Supreme Court decision.

The present study's findings are aligned with the previous theories mentioned in the opening; aspects of labeling theory, attribution theory, and conflict theory are all present within the findings. As predicted by labeling and conflict theory, the minority groups examined within the study experienced the greatest odds of incarceration and sentencing into the higher length sentence categories. There does appear to be a shift in

the disadvantages experienced by minority groups during certain aspects of the sentencing process; one that now favors blacks in relation to Hispanics. Black offenders were actually less likely than Hispanic offenders to be sentenced to prison. This could potentially be attributed to the large influx of Hispanic offenders into the federal system over the years examined. However, while black drug offenders are less likely to be sentenced to prison, they still represent the group with the highest odds of placement into an upper sentencing length category; being given longer sentences compared to the other groups examined. The white drug offenders experienced the least likelihood of incarceration and placement into the higher sentence length categories.

Attribution theory dictates that decisions be based on the interpretations of characteristics and actions. Judges who attribute more to a given offender's situation than is legally relevant are perhaps responsible for the continued disparity experienced by minority offenders. Attributing socially definable situations with attributes that are viewed in a negative way by a court could be a plausible explanation for the continued disparity experienced by drug offenders.

The social context surrounding this disparity takes shape in numerous forms, from relationship status to social dislocation. Individuals that comprise a select portion of the sentencing population are without the necessary support network and interaction system that would abate their likelihood of turning to crime. It is often at no fault of their own that illegal means are pursued to support family or self. Certain disparities present within educational and economic opportunities are endemic within certain areas of the country and still deeply rooted within the various social aspects of society. Many disadvantaged groups of people living in the urban centers of our largest cities simply are not given the opportunities to become competitive within the larger economic system; therefore, other avenues are often taken, often they are illegal. Previous research, the current study in particular, has shown that education has a tremendous effect on the reduction of the odds associated with incarceration. The finding of this study that educational attainment plays a very considerable role in determining one's likelihood of being incarcerated, and for how long, is something that should be concentrated on in future research. Such a finding relates back to the general notion that education represents a prominent underpinning of our entire society;

capable of both enabling great successes among members of the system, thus deterring criminal activity, or promoting such a negative path if the system is allowed to deteriorate further in areas where social dislocation is prominent.

The fact remains however, that characteristics that were initially disregarded as having no bearing on one's sentencing decision are continually present through the latest data year. These newly focused on characteristics are increasing the disparity that exists among conviction likelihood and length of sentence received. These findings also illuminate several key components for a more ideal, disparity free, sentencing system. First, the underlying methodology for sentencing decisions should develop from aspects related to the actual criminal act in which the offender is convicted, and not from extraneous extra-legal characteristics that promote an inherent bias. The use of second-chance type sentencing decisions which favor only a select few must be restricted. While such an act does undoubtedly create a much harsher system, with a focus away from rehabilitative sentences, there would no longer exist an emphasis on specific characteristics/traits one must possess in order to receive such a beneficial sentencing decision. A more secondary issue this study attempts to

deal with is the possibility of legislating against or for certain social ideals. The sentencing commission and other legislative bodies can continue to correct the inherent disparities present between certain criminal punishments, in terms of actual written law, but they are incapable of changing the way in which judges and others involved within the judicial system think, and how they act upon their own individual beliefs. They are unable to legislate against the removal of bias and discrimination, but must continue to work to ensure that at best, a desirable medium is reached. The results of this study remain clear in regards to the continued presence of disparity and the overwhelming prevalence of such discrimination within certain groups of offenders.

To reiterate once more, the importance of this study is found not in the legal-type variables examined, but rather in the disparity surrounding the extra-legal/social variables, that ultimately should have no bearing on the decision to incarcerate and for how long. The results presented in this study provide evidence that these extra-legal characteristics have continued to play a considerable role in increasing drug offenders' likelihood of being sentenced to prison and for a longer period of time.

Future research must continue to probe the area of sentencing disparity, particularly now that recent Supreme Court decisions have again tried to curb the observed differences, especially as it relates to drug sentencing. Continued research into the interaction between race/ethnicity and specific drug related sentences will be crucial in identifying the effectiveness of the most recent decision and helping to alleviate this particular area of judicial inequality.

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APPENDIX

Frequencies/Valid %s for Federal Drug Offenders: 1996-2006

Variable	Code	1999-2006 N	1999-2006 %
Dependent Variable			
Sentenced to Prison	0 = no	10028	5.6
	1 = yes	168693	94.4
	Missing	715	
Sentence Length	1 = Probation or < 2 Years	44759	25.1
	2 = ≥ 2 year, < 4 years	40556	22.8
	3 = ≥ 4 years, < 7 years	37178	20.9
	4 = ≥ 7 years, < 11 years	28131	15.8
	5 = ≥ than 11 years	27632	15.5
	Missing	1180	
Independent Variables			
Offender's Gender	0 = Male	154834	86.9
	1 = Female	23324	13.1
	Missing	1278	
Offender's Race			
White	0 = Not White	129737	73.7
	1 = White	46401	26.3
Black	0 = Not Black	126879	72.0
	1 = Black	49259	28.0
Hispanic	0 = Not Hispanic	100311	57.0
	1 = Hispanic	75827	43.0
Other	0 = Not Other	171487	97.4
	1 = Other	4651	2.6
	Missing	3298	
Offender's Age			
Less than 21	0 = Not < 21	168082	94.5
	1 = < 21	9689	5.5
21-25	0 = Not 21-25	141344	79.5
	1 = Aged 21-25	36427	20.5
26-30	0 = Not 26-30	137243	77.2
	1 = Aged 26-30	40528	22.8
31-35	0 = Not 31-35	146177	82.2
	1 = Aged 31-35	31594	17.8
36-40	0 = Not 36-40	154910	87.1
	1 = Aged 36-40	22861	12.9
41-50	0 = Not 41-50	151361	85.1

	1 = Aged 41-50	26410	14.9
	Missing	1665	
Offender's Education			
High School Graduate	0 = Non H.S Graduate	115568	67.3
	1 = H.S Graduate	56028	32.7
Some College	0 = Not Some College	146112	85.1
	1 = Some College	25484	14.9
College Graduate	0 = Not a College Graduate	167030	97.3
	1 = College Graduate	4566	2.7
	Missing	7840	
Plea or Trial Decision	0 = Plea	171570	95.7
	1 = Trial	7723	4.3
	Missing	143	
Prior Criminal History	0 = No, No Prior History	51774	29.6
	1 = Yes, Prior Criminal History	122956	70.4
	Missing	4706	
Final Offense Level	Interval Level Variable		
	0 = No Level Applied	13	0.0
	1+ = # Level Applied	176857	99.9
	Missing	2566	
Specific Drug Related to Case			
Cocaine	0 = No Cocaine	133397	77.3
	1 = Cocaine Present	39171	22.7
Crack	0 = No Crack	137009	79.4
	1 = Crack Present	35559	20.6
Heroin	0 = No Heroin	160424	93.0
	1 = Heroin Present	12144	7.0
Methamphetamine	0 = No Methamphetamine	142586	82.6
	1 = Methamphetamine Present	29982	17.4
Other	0 = No Other Drug	165197	95.7
	1 = Other Drug Present	7371	4.3
	Missing	6868	
Data Year			
2000-2001	0 = Not 2000-01	154346	86.0
	1 = Data 2000-01	25090	14.0
2001-2002	0 = Not 2001-02	153009	85.3
	1 = Data 2001-02	26427	14.7
2002-2003	0 = Not 2002-03	152939	85.2
	1 = Data 2002-03	26497	14.8
2003-2004	0 = Not 2003-04	154222	85.9
	1 = Data 2003-04	25214	14.1
2004-2005	0 = Not 2004-05	153674	85.6
	1 = Data 2004-05	25762	14.6
2005-2006	0 = Not 2005-06	153169	85.4
	1 = Data 2005-06	26267	14.6

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