

## **Sentencing in the Nation's Capital: Factors that Influenced the In/Out Sentence Length Decisions**

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In 2004, the District of Columbia instituted a voluntary sentencing guideline system to promote fair and consistent sentencing. This change provides a unique opportunity to examine the effectiveness of contemporary sentencing policy. This paper examines the severity of the crime, conviction by trial, and the guidelines implementation's on the in/out decision and the length of sentence. Logit models with odds ratios were estimated to determine the likelihood of imprisonment for both the Master and Drug Grid. All models found a significant, positive relationship between trial and receiving a prison sentence, and most models found that severity of the crime and post guideline increased the likelihood of receiving a prison sentence. The independent variables effects on the length of sentenced were estimated by Tobit models, which had mixed results over all models. All models indicate that there is a significant, positive relationship associated with being male, severity of the crime and sentence length. Most models indicated a significant, positive relationship associated with trial and sentence length. The significant, positive relationship between guidelines and sentence length appeared in the Drug Grid analysis, but disappeared when controlling for judge.<sup>1</sup>

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The American Declaration of Independence declares, "All men are created equal" and born with certain unalienable rights, such as the right to life, liberty and the pursuit of happiness. However, disparity does exist in society, especially within the criminal justice system, and those disparities tend to be disproportionate. While disparity is system wide, sentencing guidelines are one mechanism intended to reduce disparity. In theory, a guideline system recommends sentences for similar defendants for the same crime. Nevertheless, intended purposes and practical application are not always one in the same. Numerous criminologists have studied these differences. The current sentencing literature tends to focus on the affects legal and extralegal variables have on sentencing decisions.

Often, the contemporary sentencing literature does not contain a variable accounting for the change in sentencing practices, such as adopting a guideline system. Since legislatures created the more commonly studied guideline systems – such as Minnesota, Pennsylvania, Washington, North Carolina, and the federal system – decades ago, including the variable would not be possible in analysis using recent data. The District of Columbia enacted a guideline system in 2004. This policy change provides the opportunity to study recent trends in sentencing and the affect of the guidelines on sentencing decisions. Therefore, this study will discuss the importance of studying sentencing disparities associated with the in/out decision and sentence length, review pertinent literature, and then seeks to identify some key variables' effects on sentencing outcomes using data from the District of Columbia's Superior Court. Specifically, I am testing three hypotheses: (1) as the severity of the crime increases the likelihood of an offender receiving a prison

sentence, and the severity of that sentence, will also increase; (2) conviction by trial will increase the likelihood and sentence length; and (3) convictions and pleas entered post-guidelines will have an increased likelihood of receiving a prison sentence and longer sentences.

### STRUCTURED SENTENCING

Andrew von Hirsch introduced the idea of a creating a guideline system based on proportionality and published extensively on the topics of sentencing and proportionality. Von Hirsh helped established Minnesota's sentencing guidelines (1976, 1983). In his book, *Doing Justice*, he discussed how America should change sentencing practices, moving away from indeterminate sentencing toward a structured system. He felt decision makers should base sentences on an offender's criminal history and the severity of the act he or she committed. Guidelines and judges should allow for some flexibility for mitigating and aggravating circumstances. More important, he argued that legislatures and judges should base sentences on legally warranted factors (e.g., criminal history score and severity of the crime) and not extralegal factors (e.g., race, gender, age, social status, etc.). Von Hirsch's work revolutionized sentencing in the United States.

Two of the most prevalent justifications for the implementation of sentencing guidelines are the reduction of disparity in sentencing and the management of correctional resources (Gelacak, Nagel, & Johnson, 1996-1997; Nicholson-Crotty, 2004; Wilmont & Spohn, 2004). The federal guideline system and North Carolina's sentencing guidelines provide two examples of these justifications. The main purpose of the federal guideline system was to reduce judicial discretion and attempt to lessen disparity in sentences. North

Carolina's sentencing guidelines had three main goals: (1) "to increase the likelihood that many serious offenders would receive prison sentences," (2) increase the length of serious offenders' prison terms, and (3) "to free up needed prison beds by diverting people convicted of less serious offenses to intermediate and community punishments" (Tonry, 1999, p. 8). The Superior Court of the District of Columbia's justification was reducing disparity in sentencing outcomes.

The justification of reducing disparity in sentencing generated a large body of scholarly literature, including many studies that focused on extralegal factors and their relationship to sentencing disparity. A wide body of literature investigated the impact of race, age, gender, and other offender characteristics on sentencing disparity (Albonetti, 1997; Bontrager, Bales, & Chiricos, 2005; Bushway & Morrison Piehl, 2001; Engen & Gainey, 2000; Kansal, 2005; Klein, Petersilia, & Turner, 1990; Kramer & Steffensmeier, 1993; Kramer & Ulmer, 1996; Steffensmeier, Ulmer, & Kramer, 1998; Wooldredge, Griffin, & Rauschenberg, 2005). Other studies focus on the shift in discretionary power from the judge to the prosecutor (Albonetti, 1997; Wilmont & Spohn 2004). In addition, a few studies examined the impact of guidelines on sentencing by comparing sentences entered before and after the adoption of a guideline system (Clarke, 1984; Gorton & Boies, 1999; Koons-Witt 2002; Miethe & Moore, 1985).

For the most part, legislatures implemented the sentencing guideline system in the 1970s and 1980s; thus, most pre/post guideline analyses use data from the 1960 to the 1980s. In 2004, the Superior Court of the District of Columbia began a structured sentence system (i.e., guidelines) pilot program. All offenders sentenced—either via guilty plea or convicted by trial—on or after June 14, 2004 fell under the

voluntary guideline system. The purpose of the guidelines was to reduce variance in sentencing, reduce unwarranted disparities and making sentences more predictable and uniform. "The guidelines cover both the judge's decision to incarcerate or not in a given case—the so-called in/out decision—and, if the judge decides to incarcerate, the length of the prison term to impose, expressed in a recommended range" (DCSC, 2005, p. 6). Therefore, the District of Columbia implemented a voluntary guideline system provides a unique research opportunity for analysis on pre/post guideline systems and sentencing disparity.

## LITERATURE REVIEW

"Sentencing involves two salient decisions; first, a decision whether to incarcerate; and second, if incarceration is selected, a decision as to the length of the sentence" (Kramer & Ulmer, 1996, p. 88). The in/out decision concerns whether an offender receives confinement as part of their punishment, or another type of punishment, such as probation, community service, fines, etc. Scholars and practitioners characterized those who receive imprisonment as "in" and those who do not receive imprisonment as "out." Discretion and disparities occurs at both the in/out and the length of imprisonment decisions.

When a judge makes the decision that an offender will receive a prison sentence, the decision can have several unintended consequences, for both the individual offender and the correctional system as a whole. Sentencing disparities, — particularly disparities concerning the In/out decision — cause social harms and have adverse economic impacts on our correctional system. Imprisoning a person, even for a short time, can lead to negative outcomes and increase harm. For example, his or her family may experience social and

financial hardships; another offender or staff member may victimize the offender while he or she serves his or her sentence; the offender may lose his or her job and/or suffer from various social stigmas related to imprisonment. Therefore, identifying factors that contribute to disparities and disproportional incarceration and sentence length is important for social, economic, and ethical reasons.

The literature on sentencing disparities and the in/out decision have identified several key variables associated with general sentencing disparities, the in/out decision, and length/severity of punishment. They are criminal history (prior record), severity of the crime, characteristics of the court, mode of conviction, race, ethnicity, gender, and age (Albonetti, 1997; Bontrager, Bales, & Chiricos, 2005; Bushway & Morrison Piehl, 2001; Engen & Gainey, 2000; Everett & Wojtkiewicz, 2002; Gorton & Boies, 1999; Kansal, 2005; Klein, Petersilia, & Turner, 1990; Kramer & Steffensmeier, 1993; Kramer & Ulmer, 1996; Steffensmeier, Ulmer, & Kramer, 1998; Wooldredge, Griffin, & Rauschenberg, 2005). Recent analyses examine the impact of contextual and judicial factors (Johnson 2005; Johnson 2006), which builds upon research conducted on the effects of local and court characters on dispositional departures (Kramer and Ulmer, 1996). Kramer and Ulmer (1996) found that characteristics of the local court, including urbanization and Republican electorates, were associated with the odds of offenders sentenced in Pennsylvania receiving guideline departures. In general, a combination of county-level contextual factors, case characteristics, and the background of the judge influence the sentencing decision-making process (Johnson, 2006).

Most, if not all, sentencing research conclude that criminal history and offense

severity are two variables strongly associated with sentencing decisions. Edgen and Gainey (2000) found that offense severity and criminal history have a positive relationship to the severity of the sentence imposed in Washington State. Likewise, Steffensmeier, Ulmer, and Kramer (1998) found that criminal history and offense severity "are associated most strongly with sentencing outcomes" in Pennsylvania sentencing (p. 775). Two years earlier, Kramer and Ulmer (1996) found that prior record and offense severity were two factors associated with offenders receiving prison sentences. This study did not specifically examine all in/out decisions, but instead a smaller set of cases and identified those cases as "dispositional departures." Dispositional departures occur "when an offender receives a nonincarceration sentence and when the guidelines call for either county jail or state prison incarceration" (Kramer & Ulmer, 1996, p. 88). Kramer and Steffensmeier (1993) found that "offense severity and criminal history account for most of the explained variation" in their model (p.367).

Beyond legally relevant factors, or warranted disparity, researchers have identified the mode of conviction (plea agreements versus convictions by trial) as a possible variable associated with disparity in the severity of sentences. Research has shown that offenders who enter a guilty plea "are more likely to be rewarded with dispositional departures than are those convicted by trial – especially jury trials" (Kramer & Ulmer, 1996, p. 91). In an analysis of Pennsylvania sentencing data and using hierarchical linear modeling (HLM), Johnson (2005) found that conviction via trial "decreased the odds of downward departures by a substantial 210 percent, and nearly doubles the odds of upward departure" (p.780). Bushway and Morrison Piehl (2001) also concluded,

“guilty pleas are associated with a lower likelihood of prison” in Maryland (p. 752). Their research shows that offenders who enter a guilty plea are 7.9 percentage points less likely to receive a prison sentence than those who choose to have trial (p.753).

Many studies examine the impact of race on sentencing. Kansal (2005) and Spohn (2000) conducted meta-analyses of literature on race and sentencing disparities determined that the existence of a correlation between race and harsher prison sentences is inconclusive (Kansal, 2005; Spohn, 2000). However, most of the research does support the claims that race has an effect on sentencing outcomes. In Kansal’s (2005) meta-analysis of forty studies concerning racial disparities at the state and federal levels, he concluded that racial disparities in sentencing do exist. The effect of race on sentencing is still debatable, but many have concluded that there is an effect: minorities are sentenced more severely than whites (Spohn, 2000).

Steffensmeier, Ulmer, and Kramer (1998), Klein, Petersilia, and Turner (1990), Albonetti (1997), Bushway and Morrison Piehl (2001), and Kansal (2005) determined that race did have an impact on whether the offender was sentenced to prison. Klein et al. (1990) studied offenders convicted of assault, robbery, burglary, theft, forgery, or drug crimes in California during the year of 1980. The research specifically addressed the in/out decision and sentence length. Blacks and Latinos were more likely than white offenders to be sentenced to prison were. Blacks experienced an increased likelihood of receiving prison for assault while Latinos experienced an increased likelihood of receiving prison for drug crimes. Race did not influence the length of the sentence. However, after controlling for crime, prior record, and other variables, race was not evident as a factor in sentencing disparities for all crimes, only those two

specific combinations stated above. Bushway and Morrison Piehl (2001) found similar results in their analysis of Maryland sentencing data. They used a Probit model and found that “African Americans are 5.3 percentage points more likely than whites to be sentenced to prison, while Hispanics are about 9 percentage points more likely” (Bushway & Morrison Piehl, 2001, p. 752).

Concerning the sentencing length and race, Albonetti’s (1997) study of drug convictions at the federal level found that blacks and Hispanics were more likely to receive prison sentences, and longer sentences, than white offenders were. However, Klien, Petersillia, and Turner (1990) study of offenders convicted of assault, robbery, burglary, theft forgery, and drug crimes in California found “no evidence of racial discrimination in the length of prison term imposed for any of the crimes studied” (p.816). And, Kramer and Steffensmeier (1993) analysis of sentencing in Pennsylvania found that criminal history and severity of the crime accounted for 82% of the variance in sentence length and race accounted “for less than one-tenth of one percent of the variation,” when controlling for other variables (p. 368).

Several studies analyzed the impact of extralegal variables, including gender and race, on sentencing practices in Pennsylvania (Steffensmeier, Ulmer, & Kramer, 1998; Kramer and Ulmer 1996; Johnson, 2005). Kramer and Ulmer (1996) found that race, gender, and age influenced dispositional departures. Non-blacks, females, and older offenders were more likely to receive dispositional departures. Steffensmeier et al. (1998) found that young, black males were sent to prison (received the “in” decision) and had longer sentences than any other combination of age, race, and gender. The authors determined that gender, when controlling for prior record and offense severity, significantly affected the

in/out decision. In another study, "Females' odds of incarceration are almost half those of males," and for those females who received imprisonment their sentences were six and a half months shorter than males (Steffensmeier, Ulmer, & Kramer, 1998, p. 776). They also concluded that age has a curvilinear relationship to the harshness of a sentence. Young offenders (under 21) and old offenders (over 50) received less harsh sentences than those between the ages of 21-50 (p.777). While age, race, and gender did have significant effects on sentencing outcomes, Steffensmeier et al. concluded that prior records, mode of conviction, seriousness of the crime, and characteristics of the court primarily influenced sentencing outcomes and the in/out decisions. Johnson (2005) found additional links between race and departures. His work showed a relationship between disparity in guideline departures and the percentage of a given minority in the community. Johnson stated, "Hispanic offenders were less likely to receive downward departures as the percent Hispanic in the community increased, whereas blacks were more likely to receive upward departures as the percent black of the population increased" (Johnson, 2005, p. 786).

This purpose of this study is to explore the effects of variables on sentences entered in the District of Columbia's Superior Court. The justification and purpose of the District's guideline system – similar to all guideline systems – was to reduce disparity. The literature discussed above provides theoretical and empirical evidence suggesting that sentencing guideline systems do not eliminate disparity and disparity is still pervasive in sentencing practices. To summarize, the legally warranted variables of criminal history and offense severity are the strongest predictors of sentencing decisions. However, extralegal variables – such as race, gender,

age, and mode of conviction – influence to sentencing outcomes as well. Prior research also provided empirical support for the hypotheses and including specific variables – such as race, gender, age, mode of conviction, and offense severity - in the current analysis.

## EXPECTATIONS

This study is the preliminary examination of data from the District of Columbia's Superior Court and is part of a large multi-year research project with a broader scope. This study and the larger project's purpose are to test the hypotheses that the guidelines reduced judicial disparity in the "in/out" decision and the length of sentencing.

The hypotheses examined in this paper are:

Hypothesis 1: Since crime severity is a legally relevant factor when determining the severity of the sentence, an increase in the crime severity will be associated with an increase in the likelihood of an offender receiving a prison sentencing, and that sentence will be longer.

Hypothesis 2: A defendant convicted by trial will have an increased likelihood of receiving a prison sentence, and that sentence will be longer, than defendants who plead guilty.

Hypothesis 3: A defendant convicted after the guidelines' implementation will have an increased likelihood of receiving a prison sentence, and that sentence will be longer, than a defendant convicted before the guidelines took effect will.

## DATA AND METHODS

This study will use data provided by the Superior Court of the District of Columbia. The voluntary sentencing guidelines only apply to *felony* cases, thus the dataset is limited to felony cases heard between January 1, 2001 and December 31, 2005. There are 12,526 cases within the data. Due to the construction of models and the nature of sentencing grid structures, the cases used in the analysis vary from 4,075 and 5,159 cases, depending upon the model. Cases were excluded in the final models because of missing variables, collinearity in the dummy judge variable, specific reasons outlined below, and classification on the sentencing grid (*i.e.*, a case that falls under the drug grid will be dropped in the master grid analysis). A case is one sentencing event for a defendant, identified by case number.

The author, through negotiations and agreements with the Superior Court and the District of Columbia's Sentencing Commission, secured the data. This data is not publicly available. Access to this specific dataset is rare and analysis of the data provides a unique opportunity to expand the literature concerning the impact on guidelines and sentencing within a geographically compact jurisdiction. Nevertheless, the data has many limitations, some typical to secondary data analysis and some more problematic. The author was limited to variables collected by the Superior Court, which was for their own purpose and research.

Unlike the prevailing sentencing literature and datasets (*i.e.*, United States Sentencing Commission and Pennsylvania Commission on Sentencing's datasets) this data set does not contain all of the stereotypical extra-legal (*i.e.*, education level, married, pre-sentence status, judge-related variables, etc.) some legally relevant variables (*i.e.* criminal history). To protect

the anonymity of the judge, the Sentencing Commission randomly assigned a numeric code to all judges. Thus, judges a numeric code identifies judges and the data has no identifying characteristics for judges. Guideline system relies on two variables to recommend sentences: criminal history and offence severity. A variable measuring criminal history does not exist in the court data. Judges are privy to this information when making decisions; however, the court dataset does not capture this information. Therefore, this preliminary analysis is limited because it is missing a key variable, criminal history (see Edgen and Gainy, 2000; Steffensmeier, Ulmer and Kramer, 1998; and Kramer and Ulmer, 1996 for discussions of criminal history and sentence severity being the two variables strongly related to sentencing outcomes). However, the missing variables are not too problematic for this for this study, because it is reasonable, especially given the number of cases and the level of analysis, that the criminal histories and extralegal variables of crimes committed before and after the guidelines would be similar. The model's controls will also lessen the effect of the omitted variables.

This study has two dependent variables, one indicating whether the judge sentenced a person to prison and the second dependent variable addressed sentence length. I used Logistical regression, with odds ratios, to analyze the dichotomous variable of "in/out," and Tobit regression to analyze the length of sentence (in months). Each dependent variable has multiple models since the Master [Sentencing] Grid and the Drug [Sentencing] Grid are mutually exclusive from one another. Independent variables include legal and extra legal factors, such as pre/post guideline, severity of sentence, offender characteristics, and mode of conviction. In addition, each dependent variable and grid have two

models, one controlling for judge and one not.

### THE DEPENDENT VARIABLES

As the literature shows, sentencing decisions occur in two parts: whether the offender receives a prison sentence, and if so, for how long. Therefore, and in accordance with the prevailing literature, this analysis will have two dependent variables: in/out and sentence length.

#### *In/out*

I created the INOUT variable from the variable PRISON. PRISON had five categories: prison only, probation only, short split, long split and other. The guidelines do allow for split sentences – a sentence that requires a shorter prison stay and longer probationary period – and the District's judges do order split sentences. This type of sentence is different from a traditional sentence; however, the judge is still ordering the person removed from society for at least six months. I collapsed prison, short split and long split sentences into the category of "in" and considered probation and other as "out." In other word, if the offender received a sentence that involved any length of incarceration the case was coded with a 1 (one) to represent "in," and if no prison sentence was ordered the case was coded with a 0 (zero) to represent "out."

#### *Sentence Length*

The second dependent variable was SENTENCE, a continuous, left censored variable. This variable measures the sentence ordered by month and ranges from 0 (zero) to 11988. It is possible to receive a sentence between 0 (zero) and 1 (one). For instance, 0.33 would represent 10 days.

### THE INDEPENDENT VARIABLES

The independent variables are severity of the crime, pre/post guidelines, mode of conviction, judge, and offender's race, age and gender.

#### *Severity of the Crime*

The original dataset included the GROUP variable, coded from 1-13. Values 1 through 3 indicated the primary offense's severity for crimes listed on the Drug Grid. The Master Grid contains values 4 through 12. A value of 13 indicated other. Since the meaning of "other" could not be determined, I dropped those cases from all analyses. The drug and master grids are mutually exclusive. The primary or most serious charge determines which grid the judge consults when determining a sentence. For example, if a judge were sentencing an offender for armed robbery and marijuana possession, he would consult the master grid. Concerning the numerical values on the grids, in the original data the lower the numerical value, the more severe the crime. For example, murder would typically receive a 1 (one) on the master grid and receipt of stolen property would receive a 9 (nine).

I recoded the GROUP variable and used it for two different purposes in my analysis. I split the dataset by grid and then recoded the variables so that as the numerical value increased, so did the severity of the crime. Cases that had a value of 1 through 3 in the GROUP variable were included in the DRUGGRID variable with a value of 1 through 3, and cases within the GROUP variable with the values of 4 through 12 were included in the MASTERGRID variable and had a value of 1 through 9. For example, a murder case would now receive a value of 9 in the MASTERGRID variable and a 0 for the DRUGGRID variable.

#### *Implementation of the Guidelines*

An important independent variable, often not included in sentencing studies, is the dichotomous variable of pre-post guideline implementation. Many contemporary sentencing studies examine racial, age, and gender disparities or



variables measuring contextual factors. However, very few, if any, studies published within the last decade have focused on the effects of a guideline line system. On June 14, 2004, the voluntary guideline system took effect. To capture this event, the author used the variable DISP\_YM (disposition – year and month), and recoded the variable into a dichotomous variable. Cases from January 2001 to May 2004 were coded as a 0 (zero) to indicate before the guidelines, and cases from July 2004 to December 2005 received a 1 (one) for after the guidelines took effect. Cases in June 2004 were drop from the analysis since the variable was by month and the effective date occurred in the middle of the month.

#### *Mode of Conviction*

Research has shown that the mode of conviction, whether the defendant entered a guilty plea or convicted at trial, influences sentencing outcomes (see Bushway and Morrison Piehl 2001, Johnson, 2005). Therefore, this variable was included in the model. If the defendant plead guilty, the case was coded as 0 (zero) and convicted at trial was coded as 1 (one).

#### *Judge*

The purpose of the voluntary guideline system is to promote fair and consistent sentences. Recent literature examined the judge and county-level influences in sentencing. Johnson (2006) found that individual judge characteristics could influence sentencing outcomes. Therefore, including judges in the model is important. This analysis will control for judge effects by using dummy variables for each of the 76 judges included in the dataset.<sup>2</sup>

#### *Offender's Characteristics*

Offender characteristics affect sentencing outcomes and are common variables in sentencing literature (see

Steffensmeier, Ulmer, and Kramer, 1998). The Superior Court data has variables for race, age, and sex. The race variable had three classifications: white, black, and other. Since race is not a continuous variable, I created three dummy variables. In the models, black is the reference category. Age is a continuous variable. Gender was divided between male and female, with male being coded as 1 (one).

## FINDINGS

Table 1 presents the descriptive statistics. The grids are comparable when it comes to the offender characteristic variables. The race variable is highly skewed with 92% of the cases in the master grid (non-drug felonies) and an astonishing 97% of drug cases involved a black defendant. The number of males in this dataset is highly skewed; males accounted for 88% of defendants sentenced for a drug crime and 89% of non-drug felonies. Not surprisingly, a very small percentage of cases went to trial. Trial, as the mode of conviction, occurred in only 6% of drug crimes and 11% for non-drug felonies. Post guideline cases represented roughly 1/3 of all cases within the data.

I estimated Logit models to determine the effect of each independent variable on the in/out decision for each grid. Model 1 included all of the independent variables except judge; Model 2 controlled for judge by including dummy variables for each of the 76 judges. I created two models, for each grid, to determine if the judge has an effect on sentencing decisions. Table 2 displays the results for Drug Grid Logit model, and Table 3 displays the results for the Master Grid (non-drug felony crimes). Both tables display the coefficients, standard errors and odds ratios.

<sup>2</sup> Some models dropped judges and cases (observations) due to collinearity.

**Table 1: Descriptive Statistics for Variables**

Variable	N	Mean	Std. Dev.	Min	Max
<i>Drug Grid Analysis</i>					
<i>Dependent Variables</i>					
In/Out	5556	.63	.48	0	1
Sentence Length	5441	12.40	21.55	0	840
<i>Independent Variables</i>					
Severity	5485	1.46	.50	1	3
Guideline (Pre/Post)	5457	.33	.47	0	1
Trial	5543	.06	.23	0	1
White	5536	.02	.14	0	1
Black	5536	.97	.16	0	1
Other Races	5536	.01	.08	0	1
Age	4358	35.04	10.76	18	74
Male	5556	.88	.32	0	1
<i>Master Grid Analysis</i>					
<i>Dependent Variable</i>					
In/Out	6784	.78	.41	0	1
Sentence Length	6551	45.36	182.65	0	11988
<i>Independent Variables</i>					
Severity	6713	2.68	1.95	1	9
Guideline (Pre/Post)	6669	.30	.46	0	1
Trial	6730	.11	.31	0	1
White	6738	.07	.25	0	1
Black	6738	.92	.27	0	1
Other Races	6738	.01	.10	0	1
Age	5391	33.30	9.95	15	77
Male	6784	.89	.32	0	1

As expected, and presented in the first hypothesis, the severity of the crime has a positive relationship with the likelihood of receiving a prison sentence. On the Master Grid, the relationship was positive and significant in both models and there was very little variation between the two models. The odds ratio suggests that a one-point increase in severity on the master grid increases the odds of receiving an "In" sentence by a factor of 1.38, or 38%, ( $\beta = .32$ ,  $p < .01$ ). The odds ratio has a slight decrease when controlling for judge, but it still increases the odds for receiving an "In" sentence by 34% ( $\beta = .30$ ,  $p < .01$ ). For drug

crimes, severity was only significant when controlling for judge. The odds ratio suggests that a one-point increase in severity, on the Drug Grid, increases the odds of receiving an "in" sentence by a factor of 1.31 ( $\beta = .27$ ,  $p < .01$ ), when controlling for judge and holding all other variables in the model constant (see Table 2, Model 2).

The second hypothesis addresses the mode of conviction and tests whether defendants convicted by trial have a greater likelihood of receiving a prison sentence than individuals who plead guilty.

**Table 2. Logit Regression of Effects on the Likelihood of Incarceration – Drug Grid**

	Model 1			Model 2 <sup>a</sup>		
	$\beta$	Std. Error	Odds Ratio	$\beta$	Std. Error	Odds Ratio
Severity	.12	.07	1.13	.27**	.07	1.31
Guideline	.60**	.10	1.82	.54**	.12	1.72
Trial	1.12**	.18	3.08	.94**	.19	2.55
White <sup>b</sup>	-.30	.23	.74	-.19	.24	.83
Other Races <sup>b</sup>	-.93*	.37	.39	-.92	.40	.40
Age	-.00	.00	1.00	.00	.00	2.25
Male	.70**	.10	2.02	.81**	.11	1.00
Intercept	-.39*	.18		-.96**	.21	
Adj. Count R <sup>2</sup>	.04			.16		
Log Likelihood Statistic	-2708.73			-2463.33		
N	4180			4157		

Notes: \*\*  $p < .01$ , \*  $p < .05$

a = Model 2 is controlling for Judge. Individual dummy variables for judges are included in the analysis, but not reported here.

b = Reference category is black

As predicted, the models suggest that trial, as a mode of conviction, had a positive relationship to receiving a prison sentence (Drug Grid Model 1:  $\beta = 1.12$ ,  $p < .01$ , Drug Grid Model 2:  $\beta = .27$ ,  $p < .01$ ; Master Grid Model 1:  $\beta = .80$ ,  $p < .01$ , Master Grid Model 2:  $\beta = .78$ ,  $p < .01$ ). Compared to those defendants convicted of a drug crime via a pleading guilty, individuals who went to trial were 3.08 times more likely to receive incarceration as part of their sentence. When controlling for judge, individuals convicted of a drug crime via trial were 2.55 times more likely to receive incarceration as part of their sentence than individuals who entered a plea (see Table 2). For felonies other than drug crimes (Master Grid), conviction by trial also increased the likelihood of receiving a prison sentence. Without controlling for judge, offenders convicted via trial were 2.23 times more likely to receive incarceration as part of their sentence than individuals who entered a plea. In addition, when controlling for judge, defendants convicted via trial were

2.19 times more likely to receive incarceration as part of their sentence than individuals who entered a plea (see Table 3).

The third hypothesis addresses the effect guidelines may have on sentencing outcomes and tests whether defendants sentenced after the guidelines have a greater likelihood of receiving a prison sentence than individuals sentenced before the guidelines. While the guidelines purpose was to decrease disparity in sentencing, it is conceivable that reducing disparity would increase the likelihood of receiving a prison sentence. Moreover, the guidelines suggestion to use split sentences may increase the likelihood of a person receiving an "in" sentence for a less severe crime.

Concerning felonies other than drug crimes, the odds ratio for the first regression model for the Master Grid predicted that a person who was sentenced after the guidelines were implemented were 1.29 times more likely to receive a prison sentence than a person who was sentenced before the guidelines ( $\beta = .25$ ,  $p < .05$ ).

**Table 3. Logit Regression of Effects on the Likelihood of Incarceration – Master Grid (Non-Drug Felonies)**

	Model 1			Model 2 <sup>a</sup>		
	$\beta$	Std. Error	Odds Ratio	$\beta$	Std. Error	Odds Ratio
Severity	.32**	.03	1.38	.30**	.03	1.34
Guideline	.25*	.10	1.29	.00	.13	1.00
Trial	.80**	.18	2.23	.78**	.19	2.19
White <sup>b</sup>	-.20	.13	.82	-.22	.14	.80
Other Races <sup>b</sup>	-.22	.32	.81	-.20	.33	.82
Age	.01*	.00	1.01	.01*	.00	1.01
Male	.77**	.10	2.17	.87**	.10	2.37
Intercept	-.57**	.17		-.77**	.20	
Adj. Count R <sup>2</sup>	0.00			0.02		
Log Likelihood Statistic	-2540.7148			-2387.0419		
N	5159			5112		

Notes: \*\*  $p < .01$ , \*  $p < .05$

a = Model 2 is controlling for Judge. Individual dummy variables for judges are included in the analysis, but not reported here.

b = Reference category is black

However, when controlling for judge the relationship was not significant. Both models for the Drug Grid were significant, and the odds ratios indicated that offenders sentenced after the guidelines had an increased likelihood of receiving a prison sentence, holding all other variables constant (Model 1:  $\beta = .60$ ,  $p < .01$ , Model 2:  $\beta = .54$ ,  $p < .01$ ). The odds ratios indicate that defendants sentenced after the guidelines were 82% more likely to receive a prison sentence compared to defendants sentenced before the guidelines. Likewise, when controlling for judges, individuals sentenced after the guidelines were 72% more likely to receive a prison sentence, then individuals sentenced before the guidelines and holding all other variables constant. In other words, the likelihood of receiving a prison sentence for a drug crime was lower in the pre-guidelines period (see Table 2).

Since sentencing is a two-step process, additional analyses were required to determine the effect the independent

variables had on the sentence length. The dependant variable, SENTENCE, is a continuous variable and measures the sentence length by month. The dependent variable includes cases that received probation, resulting in data containing thousands of cases that automatically received a 0 (zero). Therefore, the customary ordinary least squares (OLS) model is not appropriate for this particular study. Instead, I used a Tobit model to estimate the effects of the independent variables on sentence length. Although Langbein (1986) was not examining sentencing in her study of money and access, she does state why a Tobit model would be appropriate for data that has a dependent variable that cannot be less than zero and the use of an OLS or similar multiple regression method would predict biased estimates. She states, "as a linear probability function, multiple regression is very likely to result in negative expected values of the dependent variable, even

though such an outcome is impossible for the behavior studied. Tobit analysis applies a maximum likelihood estimation procedure to a statistical model that conforms to theoretical expectation, and is thus preferable to the more familiar multiple linear regression model" (Langbein, 1986, p. 1057). Moreover, in Albonetti's (1997) analysis of federal sentencing guidelines, she too departs from the traditional and customary OLS method and estimates maximum likelihood with Tobit models to control for left-censored data caused by zero length of imprisonment.

Tables 4 and 5 show the results of the Tobit analysis for the Drug Grid and Master Grid, respectively. For drug crimes, severity, guidelines, and gender (male) significantly affected the length of prison sentence. When controlling for judge, variables significantly affecting the sentence length for drug crimes change to severity, mode of conviction (trial), other races, and gender (male) (see Table 4). For the Master Grid (non-drug felonies), variables significantly affecting the length of prison sentence are severity, mode of convictions (trial), other races, and gender (male) when holding all other variables constant and controlling or not controlling for judge (see Table 5).

The first hypothesis tests the theory that sentence length will increase as the severity of the crime increases. As expected, all models indicated a significant, positive relationship associated with severity of the crime and length of sentence ( $p = <.01$ ). For drug crimes, coefficients for severity, the controlling and not controlling for judge, indicates that for every increase on the Drug Grid (severity), the sentence in months will increase by 6.10 and 3.87 months, respectively. Likewise, for non-drug crimes (Master Grid), coefficients for severity, controlling and not controlling for

judge, indicates that for every increase on the Master Grid (severity), the sentence in months will increase by 40.13 months. As expected, there was a positive relationship between conviction by trial and longer prison sentences. This relationship was significant in three of the four models ( $p = <.01$ ). Cases convicted by trial on the Master Grid (controlling and not controlling for judge) and Drug Grid (controlling for judge) have significant positive relationships with the dependent variable SENTENCE. Offenders convicted by trial had prison sentences 81.28, 85.63, and 17.49, respectively, months longer than offenders who plead guilty. In other words, offenders convicted of a drug crime by trial received a sentence approximately 1.5 years longer than offenders who plead guilty. For non-drug crimes, offender convicted by trial received sentences approximately 7 years longer than those who entered a plea (see Tables 4 and 5)<sup>3</sup>.

Concerning the third hypothesis, the length of sentences will increase after the guidelines' implementation; we must reject the hypothesis in three of the four models because the relationship was not significant. Drug Grid, Model 1 was the only model to illustrate a significant positive relationship between an increased prison sentences and sentenced after the guidelines. Offenders sentenced for a drug crime after the guidelines' implementation received sentences 7.19 months longer than offenders sentenced before the guidelines, holding all other variables in the model constant (see Tables 4 and 5).

<sup>3</sup> The analysis of the Master Grid data includes one case with a sentence of 11988 months, or 999 years. At this time, it is unclear if this sentence is miscoded or someone received a sentence of 999 years. This one case skews the results of the data. For example, conviction by trial decreases by approximately 20 months with this one case removed and the affects of gender on sentence length decreased by 22 months.

**Table 4 Results of Tobit Analysis – Drug Grid**

Variable	Model 1			Model 2 <sup>a</sup>		
	β	Std. Error	T-Value	β	Std. Error	T-Value
Severity	3.87**	1.11	3.48	6.10**	1.08	5.62
Guideline	7.19**	1.47	4.89	3.14	1.58	1.99
Trial	20.36	2.26	9.02	17.49**	2.2	7.96
White <sup>b</sup>	- 4.29	3.88	- 1.11	- 3.36	3.74	-0.90
Other Races <sup>b</sup>	-14.66	6.60	- 2.22	-13.33*	6.54	-2.04
Age	.05	.05	1.08	.04	.05	0.77
Male	13.25**	1.75	7.58	12.50**	1.70	7.40
Intercept	-19.33**	-6.30	0.00	-23.14**	-6.93	0.00
Chi-Square	210.42			608.19		
Log Likelihood Statistic	-13076.27			-12877.38		
N	4075			4075		

Notes: \*\* p < .01, \*p<.05

a = Model 2 is controlling for Judge. Individual dummy variables for judges are included in the analysis, but not reported here.

b = Reference category is black

**Table 5 Results of Tobit Analysis – Master Grid (Non-Drug Felonies)**

Variable	Model 1			Model 2 <sup>a</sup>		
	β	Std. Error	T-Value	β	Std. Error	T-Value
Severity	40.13**	1.9	23.30	40.13**	1.96	20.52
Guideline	6.60	9.51	0.69	- 2.92	10.03	- 0.29
Trial	85.63**	10.80	7.93	81.28**	10.87	0.91
White <sup>b</sup>	- 22.51	12.62	- 1.78	- 19.97	12.59	- 1.59
Other Races <sup>b</sup>	197.58**	28.96	6.82	204.81**	28.92	7.08
Age	.46	.32	1.42	.29	.32	0.91
Male	42.61**	10.73	3.97	44.61**	10.78	4.14
Intercept	-172.94**	16.37	-10.57	-180.66**	18.20	-9.93
Chi-Square	1002.96			1145.73		
Log Likelihood Statistic	-26321.71			-26250.32		
N	4934			4934		

Notes: \*\* p < .01, \*p<.05

a = Model 2 is controlling for Judge. Individual dummy variables for judges are included in the analysis, but not reported here.

b = Reference category is black

Similar to prior research, most models found the severity of the crime, conviction by trial, and being male increased the likelihood of receiving a prison sentence, and those sentences were longer. Sentenced after the guideline took effect increased the likelihood of receiving a prison sentence in most of the Logit models as well. The Tobit models indicated mixed results for the independent variables effects on sentence length. All models indicate that there is a significant, positive relationship associated with being male, severity of the crime and sentence length. Most models indicated a significant, positive relationship associated with conviction by trial and sentence length. The significant, positive relationship between guidelines and sentence length appeared in the Drug Grid model, but disappeared when controlling for judge. The relationship between "other race" and length of sentence was significant in three of the four models, but the direction changed and only represented 1% of the cases in all models.

## DISCUSSION AND CONCLUSIONS

The objectives of the District of Columbia's voluntary sentencing guidelines are to promote "fair and consistent sentences while reducing unwarranted disparity" (DCSC, 2005, p. 5). The District of Columbia's Sentence Commission has focused on judicial compliance and basic analysis of whether the guidelines have reduced disparity. DCSC reported in their 2005 Annual Report that sentence "variability appears to have been reduced post-guidelines through the reduction of some of the more extreme sentences. This preliminary evidence suggests that guidelines are having their intended effect, the reduction in unexplained variability, at least for the sentencing of drug crimes during the first year of the pilot phase" (p 20). However, their analysis stops short by

not identifying which factors related to increased severity in sentencing, either with the in/out or the sentence length. This paper begins to identify some of the variables related to the two areas of sentencing disparity: if the offender receives prison and if so, for how long. Essentially, this paper asked three questions: (1) does the severity of the crime increase the severity of the sentence (in terms of both deprivation of freedom by incarceration and the length of sentence); (2) does conviction by trial increase the severity of the sentence; and (3) does the guidelines increase, decrease, or maintain the severity of the sentencing.

The analysis illustrates that legal and extralegal factors are associated with an increased likelihood of receiving a prison sentence and an increased length of that sentence as the severity of the crime increases. Kramer and Steffensmeier (1993), Kramer and Ulmer (1996), Steffensmeier, Ulmer and Kramer (1998) Edgen and Gainey (2000), found a positive relationship between offense severity and criminal history and an increased likelihood of receiving a prison sentence, and that sentence is longer. As expected by both previous literature and theory, this study found that as the severity of the crime increases, so does the likelihood of receiving a prison sentence and the length of that sentence, supporting the first hypothesis. Nevertheless, one should be cautious of these results since the data used in this analysis does not include a variable for criminal history. Statutes prescribe that criminal history is a legally relevant variable and judges should consider it when making sentencing decisions. Since the judges do have access to an offender's criminal history and research has shown the variables importance, it is likely this analysis does suffer from omitted variable bias.

The act of controlling for judge had an impact on the models. The impact

differed depending on variables, model and the method used to analyze the data. Moreover, the difference between the models that control and do not control for judge validate the theory that judges do have an effect on sentencing outcomes, which could lead to disparities. Future research will examine the differences between controlling for judge and the two grids provide more areas of research and comparison.

Conviction by trial, representing 6 to 11% of the cases, was the only variable found to be significant in all four Logit models and three of the four Tobit models. This variable is extra legal and can identify other trends in the sentencing practices within the District. As this analysis shows, offenders who utilize their constitutional right to a trial are more likely to receive a prison sentence and a longer sentence, than offenders who plead guilty. The difference in the mode of conviction is an area of concern and unwarranted disparity.

The last question concerned the effect of the guidelines implementation on the in/out decision and sentences length. It appears that the implementation of the guidelines had an effect on sentences from the Drug Grid, but not on the Master Grid.

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- While this analysis was able to identify the guidelines', impact on the dependent variable when holding other variables in the model constant, future research should focus more on the pre-post guideline implementation and consider the variable as the primary independent variable of interest. Moreover, different statistical modeling and technical procedures may be able to better isolate and measure the true effects of the guidelines implementation.
- Overall, this analysis identified the differences between the two grids certain variables increase the likelihood and length of a prison sentence. When controlling for judge, the severity of the sentence, post-guideline sentence, conviction by trial, and being male increased the offenders' likelihood of receiving a prison sentence for a drug crime increased. Moreover, offenders who were male, convicted by trial and the severity of the crime increased the length of the sentence. For non-drug felonies and controlling for judge, severity of the crime, conviction by trial, age, and being male increased the likelihood of a prison sentence. Likewise, severity of the crime, convicted by trial, male and not being white or black affected the sentence length.



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