

An Examination of Unwarranted Sentencing Disparity
Under Maryland's Voluntary Sentencing Guidelines

Report to

The Maryland Commission on Criminal Sentencing Policy
50 Maryland Avenue
Rockville, Maryland 20850

by

Claire Souryal
Charles Wellford

University of Maryland
Department of Criminology and Criminal Justice
2220 LeFrak Hall
College Park, MD 20740

November 21, 1997

TABLE OF CONTENTS

List of Tables

List of Figures

1.	Introduction	1
2.	Literature Review	3
	2.1 Racial Disparity in Sentencing	3
	2.2 Sentencing Guidelines & Racial Disparity in Sentencing	7
3.	Methods	10
	3.1 Data	11
	3.1.1 Missing-Data Values	
	3.1.2 Sample Characteristics	
	3.2 Analytic Strategy	12
	3.3 Measures	14
	3.3.1. Dependent Variables	
	3.3.2 Independent Variables	
4.	Results	16
	4.1 The Incarceration Decision	16
	4.1.1 Crime Category-Specific Approach	
	4.2 Sentence Length	18
	4.2.1 Crime Category-Specific Approach	
	4.3 Racial Disparity Among Consistent and Inconsistent Sentences	19
	4.3.1. Consistent Subsample	
	4.3.2 Inconsistent Subsample	
	4.4 Summary	22
5.	Conclusion	23

LIST OF TABLES

- Table 1. Descriptive Statistics of Individuals Sentenced Between January 1, 1987 and September 30, 1996 Using Single Count Data.
- Table 2. Research Variables and Variable Attributes.
- Table 3. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Using Single Count Data (N=75,959) .
- Table 4. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Among Individuals Convicted of a Person Offense Using Single Count Data (N=20,780).
- Table 5. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Among Individuals Convicted of a Drug Offense Using Single Count Data (N=39,761).
- Table 6. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Among Individuals Convicted of a Property Offense Using Single Count Data (N=15,418).
- Table 7. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Using Single Count Data (N=52,627).
- Table 8. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Among Individuals Convicted of Person Offenses Using Single Count Data (N=15,112).
- Table 9. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Among Individuals Convicted of Drug Offenses Using Single Count Data (N=27,589).
- Table 10. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Among Individuals Convicted of Property Offenses Using Single Count Data (N=9,926).
- Table 11. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Using Single Count Data Among Sentences *Consistent* with the Sentencing Guidelines (N=41,610).

LIST OF TABLES

-
- Table 12. Comparison of Incarceration Decision (Y/N) Among *White* Defendants Convicted of Drug Offenses and Sentenced in Compliance with the Sentencing Guidelines.
- Table 13. Comparison of Incarceration Decision (Y/N) Among *Nonwhite* Defendants Convicted of Drug Offenses and Sentenced in Compliance with the Sentencing Guidelines.
- Table 14. Ordinary Least Squares Regression Estimates Predicting Sentence Length Between January 1987 and September 1996 Among Sentences *Consistent* with the Sentencing Guidelines Using Single Count Data (N=29,153).
- Table 15. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Using Single Count Data Among Sentences *Inconsistent* with the Sentencing Guidelines (N=34,348).
- Table 16. Ordinary Least Squares Regression Estimates Predicting Sentence Length Between January 1987 and September 1996 Among Sentences *Inconsistent* with the Sentencing Guidelines Using Single Count Data (N=23,473).

LIST OF FIGURES

- Figure 1. Predicted Probability of Incarceration for a Hypothetical Individual with Mean Values on All Variables Except Race.
- Figure 2. Predicted Probability of Incarceration for a Hypothetical Individual with Mean Values on All Variables Except Race.
- Figure 3. Predicted Probability of Incarceration for a Hypothetical Individual with Mean Values on All Variables Except Offender Score.
- Figure 4. Predicted Probability of Incarceration for a Hypothetical Individual with Mean Values on All Variables Except Offense Score.

Sentencing Disparity and Sentencing Guidelines¹

1. Introduction

A major purpose of structured sentencing schemes is to reduce unwarranted sentencing disparity. In contrast to indeterminate sentencing where judges and parole boards maintain wide discretion in determining criminal punishment, structured sentencing schemes (e.g., voluntary/descriptive sentencing guidelines, statutory determinate sentencing, presumptive/prescriptive sentencing guidelines) limit or structure the discretion of the judiciary in imposing criminal sanctions (Tonry, 1993:268).

Structured sentencing schemes are explicitly crafted to take into account legal characteristics pertinent to the sentencing outcome (e.g., prior record, offense seriousness). Sentencing disparity that springs from such legal characteristics is considered warranted disparity. Unwarranted sentencing disparity arises when extra-legal factors, say, race, class or gender, influence the sentencing outcome.

Examination of the influence of extra-legal factors (particularly race/ethnicity) on criminal justice processing in general has a long history in criminological research (Wolfgang, 1973). The impact of extra-legal factors on the *sentence* outcome in particular has received special attention due to the highly visible and symbolic nature of the sentencing decision (Blumstein et al., 1983:39). Despite the salience of the issue to the criminal justice system and

¹The research reported here was conducted for the Maryland Commission on Criminal Sentencing Policy. The Commission is not responsible for any of the results or interpretations.

the multitude of studies devoted to understanding the relationship between race and sentence outcome, consistent research findings have not emerged.

Nonetheless, the balance of research does not suggest a pattern of systemic or *overt* discrimination with regard to race in sentence outcomes. More subtle effects of race on sentence outcomes cannot be discounted, however. There is some evidence to suggest that in certain contexts, race influences the incarceration decision such that Black defendants are more likely than White defendants to receive a sentence of incarceration (Sampson & Lauritsen, 1997:355). However, race/ethnicity does not appear to directly influence sentence length contingent upon incarceration. In addition, there is evidence to suggest that the effect of race on the incarceration decision may operate indirectly through mediating variables such as pretrial release, plea bargaining practices, or work history. Although the implementation of structured sentencing schemes (most commonly presumptive sentencing guidelines) appears to have reduced unwarranted racial sentencing disparity as intended, evidence of racial disparity under such schemes persists (Tonry, 1993:168-169).

The following study will examine unwarranted sentencing disparity with respect to race/ethnicity in the state of Maryland under Maryland's voluntary sentencing guidelines system.² Specifically, it will assess whether an individual's race/ethnicity influences the probability of incarceration (i.e., the decision whether to incarcerate), and contingent upon incarceration, the length of sentence (adjusting for legal characteristics). In addition, it will explore whether the effect of race/ethnicity is equally likely to influence the sentence outcome

²The voluntary sentencing guidelines have been effect in Maryland since July 1, 1983. The guidelines were revised in January, 1987.

among sentences that are *consistent* (or inconsistent) with the sentencing guidelines. The sentence outcome of roughly 81,000 individuals convicted in Maryland Circuit Courts between January, 1987 and September, 1996 will be analyzed.

2. *Literature Review*

2.1 Racial Disparity in Sentencing. The overrepresentation of minorities in prison populations relative to their percentage of the U.S. population clearly raises the possibility of unwarranted sentencing disparity.³ Whether the observed disproportionality in prison populations stems from disproportional involvement of minorities in crime and/or to disparate or discriminatory treatment by the criminal justice system has been the subject of considerable debate (e.g., Crutchfield, 1994:166-167).

While the vast majority of sentencing research examines the correlation between race/ethnicity and sentencing outcome at the individual level, another approach assesses disproportionality in *imprisonment* by comparing aggregate Uniform Crime Report (UCR) arrest statistics and imprisonment rates by race. For example, Blumstein (1982) compared official UCR arrest statistics and imprisonment rates at the *national* level and found that 80% of the racial disproportionality in prisons in 1974 and 1979 appeared to be explained by disproportional involvement of minorities in crime.

Crutchfield et al. (1994:173) replicated Blumstein's approach using data collected in

³A prison sentence is clearly the culmination of a series of criminal justice system decisions.

1982 and found that 90% of the racial disproportionality in prisons nationwide may be attributed to disproportional minority involvement in crime. Crutchfield et al. (1994:175) then extended the analysis one step further by examining state level statistics. The state-level analysis revealed considerable variation in patterns of imprisonment. In some states, for example, racial disproportionality in imprisonment appeared to be entirely explained by disproportionate involvement in crime (i.e., arrest rates), whereas in other states less than sixty percent of the disproportionality in imprisonment was similarly explained. The Crutchfield et al. (1994:175) analysis revealed that approximately 66% of the imprisonment disparity in the state of Maryland in 1982 was explained by differences in rates of arrest for Whites and Nonwhites.

The most common form of sentencing disparity research examines the relationship between race/ethnicity and sentence outcome at the individual level. However, distinguishing the unique effect of extra-legal factors such as race on sentencing outcomes has proven to be a formidable methodological task. Research efforts suffer from omitted variable bias or measurement error (where variables relevant to the explanation of the sentence outcome which are also associated with race are either excluded from explanatory models or inadequately measured, thereby biasing the effect of race on the sentence outcome) (Blumstein et al., 1983:16). Sample selection bias also presents a problem in estimating the effect of race on sentence outcome when unobserved, nonrandom screening processes which occur at earlier decision-points in the criminal justice process (e.g., arrest or charging decisions) and are also associated with race are not taken into account (Klepper et al., 1983:64-65).

Over the last 60 years, four “Waves” of this line of sentencing research have been identified (distinguished mainly by methodological advances) (Zatz, 1987:71-81). The earliest

research (Wave 1) on the relationship between race and sentencing revealed that race exerted a significant effect on sentence outcome. Wave I research (1930s-mid-1960s), however, is suspect because it generally failed to control for relevant legal factors associated with the sentencing outcome (e.g., prior record). The second Wave of research (late 1960s-1970s) employed controls for legal factors such as prior record. Reviews of Wave II research (e.g., Hagan, 1974; Kleck, 1981) suggested that the apparent effect of race on sentencing outcome was largely an artifact of the failure in prior research to control for legally relevant variables (in particular, prior record). Thus, Wave II research appeared to advance what has been dubbed the “no discrimination thesis” (NDT), although it did in fact draw attention to the possibility of indirect or interactive effects of race on sentence outcome.

Wave III research (1970s-1980s) is characterized by the use of more sophisticated statistical techniques intended to adjust for “selection bias” and “omitted variable bias.” Wave III research also explored the possibility of indirect effects of race on sentencing (e.g., race affects pretrial release status which in turn influences sentence) or interaction effects (e.g., the effect of race on sentencing varies depending on whether an individual has a prior record). Such research, for example, suggested that Blacks in some jurisdictions may be less likely to plead guilty which in turn affects the incarceration decision (Welch et al., 1985:73). Although Wave III research did not yield consistent findings, importantly it called the NDT into question. As Sampson & Lauritsen (1997:348) explain it suggested that “there is *some* discrimination, *some* of the time, in *some* places.”

Wave IV research began in the 1980s and continues into the present. Wave IV may be distinguished from Wave III not necessarily by methodological advances but by the advent of

structured sentencing. By enacting structured sentencing systems, discretion shifted from judges to decisionmakers earlier in the process, chiefly, the prosecutor. Studies of the impact of race on prosecutorial decisionmaking became more prevalent. Wave IV research also became increasingly cognizant of the importance of macrosocial context (e.g., influence of urbanization or poverty) (Sampson & Lauritsen, 1997:349). For example, Chiricos & Crawford's (1995) review of 38 studies revealed that Black defendants were more likely to receive a sentence of incarceration in particular contexts. As the authors explain, "We have shown that black defendants are significantly more disadvantaged than whites at the point of incarceration in the south, in places where blacks comprise a larger percentage of the population and where unemployment is relatively high" (Chiricos & Crawford, 1995:300). Race did not influence sentence length in their study, however. Contextual research may be the key to understanding and explaining seemingly inconsistent or anomalous research findings (Peterson & Hagan, 1984:56).

In short, the preponderance of the evidence does not support the thesis that the sentencing decision is marred by a pattern of systemic racial disparity. Racial disparity in *imprisonment* appears to be largely explained by disproportional involvement of minorities in crime at the national level (although there appears to be substantial variation at the state level). Research findings at the individual level also seem to be sensitive to specific contexts, time periods, or locations (i.e., rural versus urban location, poverty level, population composition), such that findings from one jurisdiction or time period may not generalize to another. Wave III and Wave IV sentencing research certainly call the NDT into question. There is evidence to suggest that Black defendants are more likely to receive a sentence of incarceration than White defendants in

certain contexts (Chiricos & Crawford, 1995:300; Spohn et al., 1981:86). Evidence also suggests that race may have an indirect effect on the incarceration decision.

2.2 Sentencing Guidelines & Racial Disparity in Sentencing.

Structured sentencing schemes were implemented in response to the growing disillusionment with indeterminate sentencing in the late 1970s and 1980s. Disillusionment with indeterminate sentencing sprang from a number of sources including, for example, the desire to limit discretion and demand accountability from public officials, the shift from utilitarian to retributivist philosophies, growing skepticism regarding the efficacy of rehabilitation programs, and findings of racial disparity (Blumstein et al., 1983: 61-66). As Blumstein et al. (1983:61) report between 1975 and January 1982, “11 states abolished parole release for the majority of offenders, 17 states established administrative rules for release decisions (e.g., parole guidelines), more than 30 states passed mandatory minimum sentence laws, and, in almost every state, judges experimented with guidelines to structure their own sentencing decisions.”

Voluntary sentencing guidelines were one of the forerunners of structured sentencing schemes (Tonry, 1988:276). As the name suggests, judges are not required by law to comply with voluntary sentencing guidelines and as a consequence defendants do not possess a right to be sentenced according to the guidelines. Generally instituted by judges, voluntary sentencing guidelines are by and large descriptive in nature. In other words, they are expected to serve as a model of past sentencing behavior (Blumstein et al., 1983:135). Presumptive sentencing guidelines, on the other hand, possess legal authority since they are mandated statutorily and are subject to appellate sentence review. Judges are expected to sentence according to the guidelines or provide an explanation for noncompliance. Presumptive sentencing guidelines are generally

considered prescriptive in nature because they seek to institute new sentencing policies (Blumstein et al., 1983: 135).

Research on the effect of sentencing guidelines (particularly voluntary sentencing guidelines) on racial disparity is sparse. Several state sentencing commissions (Minnesota, Washington, and Oregon) examined the impact of presumptive sentencing guidelines on unwarranted disparity with regard to race and gender (Tonry, 1993:168-171) . By and large, the implementation of presumptive sentencing guidelines appeared to reduce although not eliminate sentencing disparity. Tonry (1993:168) summarizes the Minnesota sentencing commission findings as follows:

“ The Minnesota’s commission’s three-year evaluation concluded that racial differences in sentencing declined under guidelines; nonetheless, minority defendants were likelier than whites to be imprisoned when the presumptive sentence prescribed non-state imprisonment, minority defendants received longer sentences than similarly categorized whites, and men received longer prison sentences than similarly categorized women.”

Similar findings emerged in Washington and Oregon. Despite a reduction in racial disparity in Washington, White defendants appeared to be more likely to benefit from the use of mitigating provisions (e.g., for first-time offenders). In Oregon, “whites were slightly less likely than minority defendants to receive upward dispositional departures, slightly more likely to receive downward dispositional departures, and much more likely to benefit from an ‘optional probation’ alternatives program” (Tonry, 1993:169).

Miethe & Moore’s (1985:358) study of sentencing disparity before and after the implementation of Minnesota’s guidelines revealed that although the direct effects of social variables (e.g., gender, marital status, race) on compliant sentences diminished subsequent to the implementation of the guidelines, such variables still influenced the sentence outcome indirectly

through case processing characteristics. The effect of race on sentence outcome was mediated by prior record and the use of a weapon.

In another study of unwarranted sentencing disparity under Minnesota's presumptive sentencing guidelines, Stolzenberg & D'Allesio (1994) employed an interrupted time-series design to assess the presence of unwarranted disparity with regard to the incarceration decision (Yes/No) and sentence length decision between 1980 and 1989. Unwarranted disparity was defined as disparity in the sentence outcome that did not stem from legally mandated factors (thus it is not specific to race). The results of the study suggested that although the guidelines initially reduced disparity with regard to the incarceration decision (Yes/No), the reduction in disparity was not sustained over the long-term. The sentencing guidelines appeared to substantially reduce disparity in sentence length throughout the course of the study (Stolzenberg & D'Allesio, 1994:306).

Research assessing the impact of voluntary or descriptive sentencing guidelines on unwarranted disparity is less common (Tonry, 1988:279). What evidence is available suggests that voluntary sentencing guidelines did not appear to substantially reduce sentencing disparity. For example, an evaluation of voluntary sentencing guidelines within multiple jurisdictions in Maryland and Florida suggested that unwarranted sentencing disparity was generally not reduced (one of four jurisdictions in Maryland seemed to be an exception to the rule, however) (Tonry, 1988:280). Commentators speculate that it is the voluntary nature of the guidelines which seemed to limit their effectiveness (Tonry, 1988:282; Miethe & Moore, 1985:341).

In short, while sentencing disparity appears to have decreased with the implementation of presumptive sentencing guidelines, it has not been eliminated. Even under presumptive

sentencing guidelines, White defendants appear to be more likely to benefit from sentencing alternatives.

3. *Methods*

3.1 Data.

In order to investigate the possibility of unwarranted sentencing disparity under Maryland's voluntary sentencing guidelines, the population of persons (N=80,608) convicted of a single offense in a Maryland Circuit Court between January, 1987 and September, 1996 were analyzed. The database was provided by the Maryland Administrative Office of the Courts to the University of Maryland Center for Applied Policy Studies. The data were extracted from courtroom worksheets which are routinely completed by court clerks at each circuit court. The accuracy of the database was verified using random samples drawn from the total database.

The database contains attributes of the offense and offender, as well as case-processing characteristics. Offender attributes include basic demographic characteristics such as sex, race/ethnicity, and age as well as an offender score summarizing an individual's prior record. Offense attributes include offense type and an offense seriousness score. Offenses are categorized into person, property, or drug offenses since a separate sentencing matrix is used for each crime category. Case processing characteristics include mode of disposition and Circuit Court. Mode of disposition consists of the following: (1) plea agreement; (2) plea, no agreement; (3) jury trial; and (4) court trial.

Variables specific to the Maryland sentencing guidelines include the offense score and the offender score. These variables are of particular importance to the study since prior research indicates that offense seriousness and prior record are the most influential factors in determining

sentence outcomes (Blumstein et al., 1983:11). The *Offense* score provides a measure of the seriousness of the offense. The *Offender* score provides a summary measure of an individual's prior record.

The database also contains the sentence outcome for each individual. Data describing the sentence outcomes included, for example, whether an individual received a sentence involving incarceration and the length of that sentence (e.g., incarceration time, suspended time, actual time). If an individual was not sentenced to incarceration, the length of the probation term and whether a fine was imposed were also available. Lastly, data regarding whether the sentencing judge complied with the sentencing guidelines were documented.

3.1.1. *Missing-Data Values.* Missing-data values did not pose a serious problem. Missing-data values were most prevalent among demographic variables. The percentage of missing-data values for each variable, however, did not exceed 3%. For example, 2.3% of the sample were missing age, 2.0% were missing race, 0.7% were missing sex. The most commonly missing case processing variable was disposition type (1.2%). As a consequence, missing data-values were assumed to be "missing at random" and cases with missing data-values were excluded from the analyses. Missing data-values are considered to missing at random if the probability that they are missing is independent of the true value of the incompletely observed variable (Little, 1992:1229).

3.1.2. *Sample Characteristics.* Roughly, 81,000 individuals had been convicted of a single offense between January 1, 1987 and September 30, 1996 in one of eight Maryland circuit courts. Descriptive statistics are shown in Table 1. The percentage of persons convicted of an offense each year was similar over the course of the evaluation although a slightly smaller

percentage of the sample had been sentenced during calendar year 1986 (8%) or 1987 (9%), as compared to calendar years 1988 through 1995 (11%). Over half of the defendants had been processed in three of the eight Maryland Circuits: (1) Circuit three (13%); (2) Circuit seven (23%); and (3) Circuit eight (33%).⁴

Convicted defendants were 29 years of age on average. Roughly 87% were male. Sixty-five (65%) of the defendants were Black, 34% were White, 1.3% were Hispanic, and 0.5% had been classified as “other.”

The most common mode of disposition was a plea agreement (74.3%) followed by a plea without agreement (16.9%), and either court or jury trials (8.9%). Just over half of the sample had been convicted of a drug offense (52.1%). Conviction of a violent offense was second most common (28%) followed by a property offense (20%).

Approximately, 69% of the sample received a sentence involving a term of incarceration. The average length of incarceration (actual sentence) was 34 months (median of 12 months). Approximately, 55% of the sentences imposed were consistent with the Maryland sentencing guidelines. Among sentences that were not consistent with the guidelines, 38% fell under the guideline recommendation and 8% exceeded the guideline recommendation.

3.2 Analytic Strategy

⁴Circuit three consists of the following counties: Baltimore county and Harford counties. Circuit seven consists of Calvert county, Charles county, Prince George’s county, and St. Mary’s county. Circuit eight consists solely of Baltimore city.

A sentence outcome consists of two separate decisions: (1) the decision whether to incarcerate; and (2) the decision as to the length of incarceration. As noted in Section 2., prior research suggests that the factors that influence each decision are not necessarily synonymous. Therefore, each decision will be analyzed separately here.

Logistic regression models will be estimated to examine the effect of legal and extra-legal factors on the incarceration decision (Yes/No). Logistic regression is commonly used to analyze the relationship between a set of explanatory variables and a binary outcome. Logistic regression is based on the cumulative logistic probability function which relates probabilities of the dependent variable to the explanatory variables (Hanushek & Jackson, 1977:187). The logistic transformation of the dependent variable represents the logarithm of the odds of an event occurring (Pindyck & Rubinfeld, 1991:259). Ordinary least squares (OLS) regression will be used to assess the influence of legal and extra-legal factors on sentence length (among individuals who have been sentenced to a term of incarceration). Since each person included in the model has a non-zero sentence length, the dependent variable will be truncated at zero.

Regression models will be estimated first using the total sample. Since the Maryland sentencing guidelines utilize separate matrices for each crime type and the offense seriousness measure (a primary determinant of sentence outcome) varies slightly across crime categories, a crime-specific approach will also be adopted whereby separate models will be estimated for person, drug, and property offenses. The crime-specific approach will allow us to assess whether there is an interaction between crime type and race. That is, whether sentencing disparity with regard to race is more or less likely within certain categories of crime.

Lastly, additional models will be estimated in order to determine whether the effect of

race differs depending on whether the imposed sentence was *consistent* or *inconsistent* with the sentencing guidelines. Models will be estimated to assess the effect of race on both the incarceration decision and sentence length among only those sentences that were *consistent* with the sentencing guidelines. Similarly, models will be estimated to examine the effect of race among only those sentences that were *inconsistent* with the sentencing guidelines.

The regression analyses rest on the assumption that the regression model has been correctly specified -- that is, that all relevant variables associated with the sentencing decision are included in the model. It also rests on the assumption that key constructs such as offense seriousness have been adequately measured. To the extent that our models exclude variables that affect the sentencing outcome or provide only partial measures of such constructs, they may be vulnerable to omitted variable bias or measurement error. If the omitted variables (or inadequately measured variables) are associated with both race and the sentencing outcome, the estimate of the effect of race on sentencing may be biased. As a consequence, the results of the analyses must be interpreted with caution.

3.3 Measures

3.3.1 Dependent Variables. The first dependent variable of interest will be whether an individual received a sentence that involved a term of incarceration independent of the length of sentence. A binary indicator will be created whereby an individual receives a code of 1 if they are sentenced to a term of incarceration and a 0 otherwise.

The second dependent variable will consist of the length of incarceration measured in months contingent on being sentenced to prison. Therefore only individuals who receive a term

of incarceration will be included in the analysis. Length of incarceration represents the actual time an individual is expected to serve (i.e., total sentence length less suspended time).

3.3.2 Independent Variables. The independent or explanatory variables included in the regression models are shown below. Variable attributes are illustrated in Table 2.

- Age
- Race
- Sex
- Type of Offense
- Mode of Disposition
- Offense Score
- Offender Score
- Circuit

Explanatory variables have been constructed as follows: (1) age is measured in years as a continuous variable; (2) race is measured as a set of binary indicators (coded 1 or 0) for each race/ethnicity (Black, White, Hispanic, and “Other”); (3) sex is represented by a binary measure (Male=1; Female=0); (4) disposition type consists of binary measures coded 1 or 0 for each disposition type (plea agreement, plea without agreement, court trial, and jury trial); and (5) circuit consists of a set of binary measures coded 1 or 0 to represent each circuit.

The measure of offense seriousness varies across crime categories since it was specifically created for use with the person offense matrix of the sentencing guidelines. For person offenses, it combines the seriousness category of the offense (which is statutorily determined) with three indicators of the nature of the offense (i.e., whether the victim was injured, whether a weapon was used, and whether the victim was especially vulnerable). The Offense score ranges from 1 to 15 (15 is the most serious offense score). Since information regarding victim injury, etc. is not generalizable to drug and property offenses, the seriousness

category of each offense was used as a measure of offense seriousness. The seriousness category is one component of the offense score for person offenses. Thus, it is a comparable, though not identical measure.⁵

The Offender score provides a summary measure of an individual's prior record. It consists of the following factors: (1) whether the individual was involved with the criminal justice system at the time of the instant offense (0=no/1=yes); (2) juvenile record (0=not more than one finding of delinquency, 1=two or more findings without commitment or one commitment, 2=two or more commitments); (3) prior adult record (0=none, 1=minor, 2=moderate, 3=major); (4) prior adult parole/probation violations (0=no, 1=yes). The Offender score ranges from 0 to 9 with a score of 9 representing the most serious Offender score.

4. Results

4.1 The Incarceration Decision

Logistic regression models were estimated to examine the effect of legal and extra-legal factors on the incarceration decision using the SAS System (SAS, 1990). The results of analyses using the total sample are shown in Table 3.

Adjusting for the influence of legally relevant factors race exerted a positive and statistically significant effect on the incarceration decision. Both Black and Hispanic offenders were more likely to receive a sentence of incarceration than White offenders. The predicted

⁵Note that for drug and property offenses, the seriousness category was converted to a point score identical to the point score conversion used for person offenses.

probability of incarceration is shown in Figure 1. The predicted probability of incarceration for White defendants with mean/median values on all other explanatory variables included in the model was $\pi=0.56$. In comparison, the predicted probability of incarceration for Black defendants was $\pi=.65$ and the predicted probability of incarceration for Hispanic defendants was $\pi=0.77$. Figure 2 illustrates the predicted probability of incarceration when Black, Hispanic, and individuals classified as “Other race” are combined into one category. The predicted probability of incarceration for White defendants is $\pi=0.56$, whereas the predicted probability of incarceration for Nonwhite defendants is $\pi=0.65$. Due to the relatively small sample size of Hispanic and “other” individuals, the predicted probabilities mirror the predicted probabilities of White and Black offenders when each race/ethnicity is modeled separately.

As expected, both the Offense score and Offender score exerted a strong, positive effect on the incarceration decision. The more serious the offense or the more serious an individual’s prior record, the greater the probability of an incarceration sentence. Figures 3 and 4 illustrate the predicted probability of incarceration for each level of the Offender score (0-9) and each level of the Offense score (1-15), with all other explanatory variables held constant at their mean or median value.^{6,7} As illustrated in Figure 3, the predicted probability of incarceration for an individual with an Offender score of zero equals $\pi=0.5$. As the Offender score approaches 9, the

⁶Note that due to the skewed distribution of the Offense score and Offender score, the median value was used instead of the mean.

⁷The logistic regression function was used to calculate the predicted probability of incarceration (King, 1989:104-105). The predicted probability of incarceration refers to a hypothetical individual characterized by average levels of all explanatory variables in the model except Offense score or Offender score (which were allowed to vary over their range).

predicted probability of incarceration is virtually $\pi=1.0$. Similarly, the predicted probability of incarceration for an individual with an Offense score of one and mean or median value on all other variables included in the model is less than $\pi=0.5$. The predicted probability of individuals with an Offense score of 6 or more exceeds $\pi=0.8$ (see Figure 4). Examination of other variables included in the model suggested the following: (1) males were significantly more likely to be incarcerated than females; (2) older individuals were less likely to be incarcerated than younger individuals; and (3) individuals who were convicted subsequent to a plea agreement, or plea without agreement, or a court trial were significantly less likely to be incarcerated than individuals who were convicted by means of a jury trial.

4.1.1. *Crime Category-Specific Approach*. In addition to the total analysis, the effect of race on the incarceration decision was examined within each crime category. The results are shown in Tables 4-6. By and large, the effect of race on incarceration did not vary dramatically among crime categories. The magnitude of the effect did appear to be stronger among individuals convicted of drug offenses.⁸ The only other notable difference among the models was related to disposition type. Disposition type did not appear to influence the incarceration decision among property offenders.

4.2 Sentence Length

OLS regression models were estimated to assess the influence of race on sentence length. Regression estimates using the total sample are shown in Table 7. Overall, the results of the

⁸Note, however, that race-by-crime type interaction effects did not contribute significantly to the total model.

analysis were similar to the logistic model predicting the incarceration decision. Notably, however, race did not exert a statistically significant effect on sentence length.

Offense score and Offender score exerted a positive and statistically significant on sentence length. Males received longer sentences than females. Here, however, older individuals received longer sentences than younger individuals. Individuals who were adjudicated by means of a plea agreement, plea without agreement, or court trial received shorter sentences than individuals who were adjudicated by means of a jury trial.

4.2.1. Crime Category-Specific Approach. The OLS regression models were estimated separately within each crime category. The results of the analyses are shown in Tables 8-10. Examination of the effect of race on sentence length within each crime category revealed that race exerted a significant effect among persons convicted of *drug* offenses only. Race did not influence sentence length among persons convicted of person or property offenses.

Variables that exerted statistically significant effects on sentence length across all three crime categories included the Offense score, Offender score, and disposition type. While males were more likely than females to receive longer sentences in person and drug offenses, male and female property offenders appeared to receive sentences of equal lengths. Lastly, while older individuals were more likely to receive longer sentences among person and property offenses, an individual's age did not influence sentence length if convicted of a drug offense.

4.3 Racial Disparity Among Consistent and Inconsistent Sentences

The total sample was divided into two subsamples: individuals who received sentences that were consistent with the sentencing guidelines and individuals who received sentences that

were inconsistent with the sentencing guidelines (either above or below the suggested range). Fifty-five percent of the total sample received sentences that were consistent with the sentencing guidelines. Logistic and OLS regression equations were then estimated to assess the effect of race on the incarceration decision (Y/N) and sentence length within each subsample. If adherence to the sentencing guidelines reduces sentencing disparity by race, the effect of race in this subsample would be expected to be negligible. Due to the relatively small sample size of Hispanic and “other” defendants and to the inclusion of interaction effects, race/ethnicity was collapsed into White versus Nonwhite (Black, Hispanic, and “Other”).

4.3.1. *Consistent Subsample.* Logistic regression equation were estimated to assess the impact of race/ethnicity on the incarceration decision among individuals who received sentences that were consistent with the sentencing guidelines. The full set of explanatory variables were included in the model in addition to race-by-crime-category interaction effects. Race-by-crime interaction effects were added because prior analyses suggested that the effect of race may vary by crime type.

The parameter estimates are shown in Table 11. The results reveal that race exerted a significant effect on the incarceration decision even among *consistent* sentences. The interaction effect between race and crime category (particularly the drug crime category) also exerted a strong statistically significant effect on the incarceration decision, suggesting that the effect of race on the incarceration decision varied by crime category.

In order to further explore the suggestion of a race effect and a race-by-crime type interaction effect, the percentage of White and Nonwhite defendants who fell within each cell of the *drug* offense matrix and were incarcerated was examined (see Tables 12 and 13). Table 12

contains the percentage of White individuals who fell within each cell of the drug offense sentencing matrix and received a sentence of incarceration. Table 13 contains the percentage of Nonwhite individuals who fell within each cell of the drug offense sentencing matrix and received a sentence of incarceration. Comparison of the percentage of White and Nonwhite individuals within each cell of the drug offense sentencing matrix revealed that when judges were given the option to impose either probation or a short term of incarceration, Nonwhite offenders were more likely to receive a sentence involving incarceration than White offenders. For example, 36% of White offenders who were convicted of a drug offense with a seriousness category of four who had an Offender score of zero received a term of incarceration, whereas 49% of Nonwhite offenders who fell within the same cell of the sentencing matrix received a sentence of incarceration. Thus, race appeared to influence the incarceration decision even among sentences that were consistent with the guidelines. The magnitude of the effect was particularly strong for drug offenses. Notably, among sentences that were consistent with the guidelines, mode of disposition did not exert a significant influence on the incarceration decision.

With regard to sentence length among consistent cases, race appeared to have a slight direct effect on sentence length (see Table 14). The interaction effect between race and drug crime category also exerted a statistically significant effect on sentence length. Examination of the mean and median sentence length within each cell of the *drug* offense matrix for White and Nonwhite defendants did not reveal substantively large differences, however.

4.3.2 *Inconsistent Subsample.* Logistic regression models were also estimated to examine the impact of race among the subsample of individuals who received sentences that

were *inconsistent* with the sentencing guidelines (see Table 15). Again, the direct effect of race on the incarceration decision was statistically significant. Inclusion of race-by-crime category interaction effects failed to reveal a significant interaction between race and drug crime category.

The effect of race on sentence length among sentences that were not *inconsistent* with the sentencing guidelines was marginal (see Table 16). The interaction effect between race and drug crime category was not statistically significant among sentences that were inconsistent with the guidelines.

4.4 Summary

In summary, examination of the effect of race on the incarceration decision using logistic regression models suggested that race affects the probability of incarceration in a nontrivial manner adjusting for the effect of legal characteristics. The predicted probability of incarceration for White offenders holding all other explanatory variables constant at their mean/median is $\pi=0.56$, whereas the predicted probability of incarceration for Nonwhite offenders is $\pi=0.65$. The influence of race on the incarceration decision does not appear to vary by crime type.

OLS regression models were used to examine whether race influences sentence length contingent upon incarceration. Using the total sample, race did not appear to influence sentence length adjusting for the effect of legally relevant variables (e.g., offense score, offender score, crime type). However, the crime category-specific approach appeared to uncover an interaction between crime category and race. Specifically, race appeared to influence the sentence length of individuals convicted of drug offenses, but not the sentence length of individuals convicted of

person or property offenses.

The total sample of individuals was then subdivided into those individuals who received sentences that were consistent with the sentencing guidelines and those individuals who received sentences that were inconsistent with the sentencing guidelines. The results suggested that race influenced the incarceration decision among consistent *and* inconsistent sentences. A significant interaction effect between race and drug crime category further revealed that the magnitude of the effect of race on the sentencing decision was greater among individuals convicted of drug offenses and sentenced in compliance with the sentencing guidelines. Under this scenario, Nonwhite offenders convicted of drug offenses were substantially more likely to receive short terms of incarceration (rather than probation) than White offenders. The direct effect of race on sentence length was small among both consistent and inconsistent sentences.

5. Conclusion

The results of the present study are largely consistent with prior research. Offense seriousness and prior record were the most powerful predictors of sentence outcome. Race was found to influence the incarceration decision net of legal factors in the *total* sample, but not sentence length. Notably, the effect of race on sentence length varied by crime category. Black and Hispanic defendants convicted of drug offenses were more likely to receive longer sentences than White defendants. Furthermore, race influenced the incarceration decision regardless of whether the sentence was consistent or inconsistent with the sentencing guidelines. The magnitude of the effect of race on the incarceration decision was particularly strong among individuals convicted of drug offenses and sentenced in *compliance* with the sentencing

guidelines.

These findings are also consistent with the emerging research on the effects of sentencing guidelines. While such systems seem to reduce racial disparity in sentencing, they do not eliminate it. When structured sentencing systems allow a choice between prison and an alternative to prison, Black defendants are more likely to receive a prison sentence. In order to eliminate this form of disparity, sentencing patterns will have to be constantly monitored. In addition, it may be necessary to minimize the opportunity for judges to make such choices.

Table 1. Descriptive Statistics of Individuals Sentenced Between January 1, 1987 and September 30, 1996 for Single Count Offenses.

Variable	Total Sample N=80,608
Age (X, SD)	28.66 (8.74)
Median	26.75
Male (N, % Yes)	69,727 (87.1)
Race (N, % Yes)	
Black	51,050 (64.6)
White	26,590 (33.6)
Hispanic	1,020 (1.3)
Other	376 (0.5)
Mode of Disposition (N, % Yes)	
Plea Agreement	59,157 (74.3)
Plea, No Agreement	13,423 (16.9)
Court Trial	3,505 (4.4)
Jury Trial	3,546 (4.5)
Crime Type (N, % Yes)	
Violent	22,183 (27.5)
Drug	41,970 (52.1)
Property	16,454 (20.4)
Circuit (N, % Yes)	
One	4,529 (5.6)
Two	2,852 (3.5)
Three	10,251 (12.7)
Four	2,933 (3.6)
Five	7,900 (9.8)
Six	6,824 (8.5)
Seven	18,518 (23.0)
Eight	26,801 (33.2)
Offense Score (X, SD)	3.588 (2.197)
Median	3
Offender Score (X, SD)	1.986 (2.162)
Median	1
Incarcerated (N, % Yes)	55,766 (69.2)
Sentence Length (X, SD)	34.44 (62.17)
(In Months) Median	12.01

Table 2. Research Variables and Variable Attributes.	
SEX	1= Male 0= Female
RACE	1=Black; 0=Other 1=White; 0=Other 1=Hispanic; 0=Other 1=Other Race; 0=Other
AGE	Age in Years
MODE OF DISPOSITION	1=Plea; 0=Other 1=Plea w/o Agreement; 0=Other 1=Court trial; 0=Other 1=Jury trial; 0=Other
CIRCUIT	Circuit: 1= Dorchester, Somerset, Wicomico, Worcester Counties 2= Caroline, Cecil, Kent, Queen Anne's, Talbot Counties 3= Baltimore and Harford Counties 4= Allegany, Garrett, Washington Counties 5= Anne Arundel, Carroll, Howard Counties 6= Montgomery, Frederick Counties 7= Calvert, Charles, Prince George's, St. Mary's Counties 8= Baltimore City
CRIME CATEGORY	1=Person; 0=Other 1=Drug; 0=Other 1=Property; 0=Other
OFFENSE SERIOUSNESS CATEGORY (varies by crime type)	<p>Person Offense : Seriousness Category (1, 2, 3, 4, 5, 6, 7)*</p> <p>+ Victim Injury: 0= No injury 1= Injury, Non-permanent 2= Permanent Injury or Death</p> <p>+ Weapon Usage 0= No weapon 1= Weapon Other than Firearm 2= Firearm or Explosive</p> <p>+ Special Vulnerability of Victim 0= No 1= Yes</p> <p>Drug Offense: Seriousness Category (2, 3, 4, 5, 7)* Property Offense: Seriousness Category (2, 3, 4, 5, 6, 7)*</p> <p>* Seriousness category is converted to a point score ranging from 1 to 10. The higher the point score, the more more serious the offense.</p>

Table 3. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Using Single Count Data (N=75,959).

Variable	b	s.e.	X ²
Constant	-1.788	0.076	--
Male	0.659	0.026	664.81***
Age	-0.012	0.001	127.90 ***
Black	0.374	0.021	325.80***
Hispanic	0.958	0.086	123.91***
Other Race	0.101	0.124	0.67
Property Offense	0.218	0.030	53.87***
Drug Offense	-0.071	0.023	10.08**
Plea Agreement	-0.246	0.053	21.58***
Plea, No Agreement	-0.342	0.056	37.21***
Court Trial	-0.243	0.068	12.83**
Offense Score	0.330	0.006	3348.26***
Offender Score	0.493	0.006	7061.79***
Circuit 1	1.739	0.048	1337.85***
Circuit 2	1.527	0.056	734.16***
Circuit 3	-0.080	0.030	7.39**
Circuit 4	1.371	0.055	625.98***
Circuit 5	-0.215	0.034	40.21***
Circuit 6	0.342	0.035	95.15***
Circuit 7	1.543	0.028	3020.38***
Log-likelihood	-36260.56		
* p <.05	** p<.01	***p <.0001	

Table 4. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Among Individuals Convicted of a Person Offense Using Single Count Data (N=20,780).

Variable	b	s.e.	X ²
Constant	-1.001	0.135	--
Male	0.846	0.059	208.49***
Age	-0.025	0.002	195.85 ***
Black	0.242	0.040	36.03***
Hispanic	0.454	0.143	10.07**
Other Race	0.155	0.211	0.538
Plea Agreement	-0.497	0.092	29.01***
Plea, No Agreement	-0.498	0.101	24.51***
Court Trial	-0.439	0.124	12.60**
Offense Score	0.319	0.009	1282.08***
Offender Score	0.520	0.012	1821.50***
Circuit 1	1.279	0.094	184.96***
Circuit 2	0.751	0.111	46.04***
Circuit 3	-0.457	0.055	67.92***
Circuit 4	1.028	0.108	91.22***
Circuit 5	-0.146	0.069	4.44*
Circuit 6	-0.035	0.070	0.26
Circuit 7	0.944	0.054	303.50***
Log-likelihood	-9241.03		

* p <.05

** p<.01

***p <.0001

Table 5. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Among Individuals Convicted of a Drug Offense Using Single Count Data (N=39,761).

Variable	b	s.e.	X ²
Constant	-2.221	0.110	--
Male	0.569	0.034	283.08***
Age	-0.008	0.002	25.72***
Black	0.456	0.030	224.31***
Hispanic	1.380	0.131	110.88***
Other Race	0.032	0.213	0.02
Plea Agreement	-0.254	0.083	9.26**
Plea, No Agreement	-0.383	0.087	19.42***
Court Trial	-0.085	0.105	0.65
Offense Score	0.363	0.008	1914.12***
Offender Score	0.466	0.008	3135.40***
Circuit 1	2.248	0.072	978.82***
Circuit 2	2.229	0.087	649.73***
Circuit 3	0.161	0.044	13.69**
Circuit 4	1.921	0.083	534.16***
Circuit 5	-0.149	0.048	9.76**
Circuit 6	0.664	0.049	185.08***
Circuit 7	1.962	0.040	2382.47***
Log-likelihood	-18935.12		

* p <.05

** p<.01

***p <.0001

Table 6. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Among Individuals Convicted of a Property Offense Using Single Count Data (N=15,418).

Variable	b	s.e.	X ²
Constant	-2.003	0.154	--
Male	0.818	0.056	217.22***
Age	0.002	0.002	0.63
Black	0.324	0.042	60.15***
Hispanic	0.841	0.215	15.31***
Other Race	0.008	0.220	0.001
Plea Agreement	0.045	0.106	0.18
Plea, No Agreement	-0.023	0.113	0.04
Court Trial	-0.187	0.136	1.89
Offense Score	0.308	0.022	191.72***
Offender Score	0.507	0.012	1934.62***
Circuit 1	1.159	0.093	154.80***
Circuit 2	0.916	0.108	72.43***
Circuit 3	-0.395	0.064	37.63***
Circuit 4	0.598	0.107	31.14***
Circuit 5	-0.582	0.073	63.32***
Circuit 6	-0.112	0.078	2.05
Circuit 7	1.173	0.064	339.40***
Log-likelihood	-7699.15		

* p <.05

** p<.01

***p <.0001

Table 7. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Using Single Count Data (N=52,627).

Variable	b	s.e.	t
Constant	-25.993	1.687	-15.41***
Male	3.983	0.754	5.28***
Age	0.117	0.026	4.50***
Black	0.315	0.501	0.63
Hispanic	0.771	1.838	0.42
Other Race	6.313	3.377	1.87
Property Offense	17.677	0.725	24.37***
Drug Offense	-11.290	0.505	-22.35***
Plea Agreement	-39.288	0.962	-40.86 ***
Plea, No Agreement	-35.407	1.070	-33.09***
Court Trial	-33.893	1.387	-24.43***
Offense Score	16.104	0.112	144.29***
Offender Score	8.282	0.100	82.92***
Circuit 1	24.525	0.909	26.99***
Circuit 2	34.819	1.155	30.15***
Circuit 3	9.261	0.783	11.82***
Circuit 4	30.650	1.189	25.78***
Circuit 5	3.043	0.905	3.36**
Circuit 6	4.824	0.848	5.69***
Circuit 7	11.808	0.563	20.97***
R ² =0.396			

* p <.05

** p<.01

*** p <.0001

Table 8. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Among Individuals Convicted of Person Offenses Using Single Count Data (N=15,112).

Variable	b	s.e.	t
Constant	-53.587	4.351	-12.32***
Male	11.694	2.539	4.61***
Age	0.261	0.065	3.98***
Black	1.229	1.352	0.91
Hispanic	-4.664	5.230	-0.89
Other Race	6.413	7.992	0.80
Plea Agreement	-53.276	2.282	-23.35 ***
Plea, No Agreement	-46.601	2.656	-17.54***
Court Trial	-47.666	3.549	-13.43***
Offense Score	21.570	0.213	101.41***
Offender Score	9.417	0.271	34.73***
Circuit 1	28.131	2.592	10.85***
Circuit 2	40.542	3.562	11.38***
Circuit 3	7.257	2.026	3.58**
Circuit 4	26.139	3.197	8.18***
Circuit 5	-2.306	2.365	-0.97
Circuit 6	0.944	2.453	0.38
Circuit 7	8.500	1.585	5.36***
R ² =0.455			

* p <.05

** p<.01

*** p <.0001

Table 9. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Among Individuals Convicted of Drug Offenses Using Single Count Data (N=27,589).

Variable	b	s.e.	t
Constant	-4.574	1.435	-3.19**
Male	3.352	0.584	5.73***
Age	-0.037	0.023	-1.60
Black	4.082	0.458	8.92***
Hispanic	9.807	1.473	6.66***
Other Race	15.541	3.445	4.51***
Plea Agreement	-29.345	0.890	-32.99***
Plea, No Agreement	-27.833	0.973	-28.61***
Court Trial	-23.855	1.238	-19.26***
Offense Score	7.106	0.120	59.04***
Offender Score	7.983	0.087	91.89***
Circuit 1	18.623	0.770	24.19***
Circuit 2	28.970	0.958	30.25***
Circuit 3	7.535	0.730	10.32***
Circuit 4	29.906	1.034	28.92***
Circuit 5	0.380	0.824	0.46
Circuit 6	3.500	0.699	5.00***
Circuit 7	8.578	0.463	18.52***
R ² =0.355			

* p <.05

** p<.01

*** p <.0001

Table 10. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Among Individuals Convicted of Property Offenses Using Single Count Data (N=9,926).

Variable	b	s.e.	t
Constant	-3.423	2.452	-1.40
Sex	0.347	1.143	0.30
Age	0.161	0.039	4.12***
Black	-0.216	0.663	-0.33
Hispanic	1.099	3.166	0.35
Other Race	-0.025	4.383	-0.01
Plea Agreement	-18.279	1.506	-12.14 ***
Plea, No Agreement	-15.518	1.640	-9.46***
Court Trial	-13.744	2.084	-6.59***
Offense Score	6.328	0.318	19.93***
Offender Score	7.488	0.144	52.10***
Circuit 1	13.710	1.321	10.38***
Circuit 2	13.734	1.619	8.48***
Circuit 3	12.905	1.095	11.79***
Circuit 4	14.968	1.741	8.60***
Circuit 5	0.228	1.275	0.18
Circuit 6	1.406	1.292	1.09
Circuit 7	7.158	0.914	7.83***
R ² =0.285			

* p <.05

** p<.01

*** p <.0001

Table 11. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Using Single Count Data Among Sentences Consistent with the Sentencing Guidelines (N=41,610).

Variable	b	s.e.	X ²
Constant	-4.661	0.137	--
Male	0.558	0.044	162.75***
Age	-0.011	0.002	38.33***
Nonwhite	0.292	0.061	23.32***
Property Offense	1.210	0.067	331.25***
Drug Offense	0.276	0.060	21.26***
Nonwhite*Property	0.071	0.084	0.72
Nonwhite*Drug	0.871	0.079	122.59***
Plea Agreement	0.035	0.086	0.16
Plea, No Agreement	-0.038	0.092	0.17
Court Trial	-0.079	0.113	0.49
Offense Score	1.145	0.015	5577.55***
Offender Score	1.469	0.023	4162.15***
Circuit 1	1.449	0.072	408.81***
Circuit 2	1.195	0.087	186.78***
Circuit 3	-0.486	0.055	77.05***
Circuit 4	0.749	0.088	72.02***
Circuit 5	-0.336	0.062	29.45***
Circuit 6	0.015	0.063	0.06
Circuit 7	1.628	0.050	1062.80***
Log-likelihood	-12159.697		

* p <.05

** p<.01

***p <.0001

Table 12. Comparison of Incarceration Decision (Y/N) Among *White* Defendants Convicted of Drug Offenses and Sentenced in Compliance with the Sentencing Guidelines.

SERIOUSNESS CATEGORY	OFFENDER SCORE							
	0	1	2	3	4	5	6	7+
2	n=9* n=9** 100% 1Y- 4Y***	n=3 n=3 100% 2Y-5Y	n=1 n=1 100% 3Y-6Y	n=1 n=1 100% 4Y-7Y	---- ---- 5Y-8Y	---- ---- 6Y-10Y	---- ---- 8Y-15Y	n=1 n=1 100% 15Y-25Y
3	n=589 n=585 99.3% 6M-3Y	n=403 n=400 99.3 1Y-3Y	n=177 n=177 100% 18M-4Y	n=128 n=128 100% 3Y-7Y	n=135 n=135 100% 4Y-8Y	n=98 n=98 100% 5Y-10Y	n=69 n=69 100% 7Y-14Y	n=31 n=31 100% 12Y-20Y
4	n=1,379 n=500 36.3% P-12M	n=551 n=290 52.6% P-18M	n=103 n=103 100% 6M-18M	n=74 n=74 100% 1Y-2Y	n=38 n=38 100% 1.5Y-2.5Y	n=17 n=17 100% 2Y-3Y	n=20 n=20 100% 3Y-4Y	n=10 n=10 100% 3.5Y-5Y
5	n=766 n=181 23.6% P-6M	n=463 n=193 41.7% P-12M	n=81 n=81 100% 3M-12M	n=79 n=79 100% 6M-18M	n=80 n=80 100% 1Y-2Y	n=40 n=40 100% 1.5-2.5Y	n=27 n=27 100% 2Y-3Y	n=44 n=44 100% 3Y-4Y
7	n=599 n=2 0.3% P	n=152 n=0 0% P	n=59 n=1 1.7% P	n=46 n=15 32.6% P-1M	n=44 n=17 38.6% P-3M	n=15 n=8 53.3% P-6M	n=7 n=7 100% 3M-6M	n=9 n=9 100% 6M-12M

* The first n equals the total number of individuals who fell within a particular cell.
 ** The second n represents the number of individuals who received a sentence involving incarceration, followed by the percentage of the total.
 *** Denotes the sentencing guidelines for each cell where P=Probation, M=Months, and Y=Years.

Table 13. Comparison of Incarceration Decision (Y/N) Among *Nonwhite* Defendants Convicted of Drug Offenses and Sentenced in Compliance with the Sentencing Guidelines.

SERIOUSNESS CATEGORY	OFFENDER SCORE							
	0	1	2	3	4	5	6	7+
2	n=81* n=80** 98.8% 1Y-4Y***	n=16 n=16 100% 2Y-5Y	n=5 n=5 100% 3Y-6Y	n=6 n=6 100% 4Y-7Y	n=4 n=4 100% 5Y-8Y	n=4 n=4 100% 6Y-10Y	n=4 n=4 100% 8Y-15Y	n=1 n=1 100% 15-25Y
3	n=3,615 n=3,609 99.8% 6M-3Y	n=1,729 n=1,729 100% 1Y-3Y	n=978 n=978 100% 18M-4Y	n=671 n=671 100% 3Y-7Y	n=804 n=804 100% 4Y-8Y	n=506 n=506 100% 5Y-10Y	n=342 n=342 100% 7Y-14Y	n=172 n=172 100% 12-20Y
4	n=801 n=389 48.6% P-12M	n=402 n=253 62.9% P-18M	n=86 n=86 100% 6M-18M	n=70 n=70 100% 1Y-2Y	n=68 n=68 100% 1.5-2.5Y	n=38 n=38 100% 2Y-3Y	n=32 n=32 100% 3Y-4Y	n=26 n=26 100% 3.5Y-5Y
5	n=1,494 n=590 39.5% P-6M	n=769 n=428 55.7% P-12M	n=212 n=212 100% 3M-12M	n=164 n=164 100% 6M-18M	n=185 n=185 100% 1Y-2Y	n=87 n=87 100% 1.5-2.5Y	n=67 n=67 100% 2Y-3Y	n=86 n=86 100% 3Y-4Y
7	n=271 n=0 0% P	n=60 n=0 0% P	n=27 n=0 0% P	n=26 n=10 38.5% P-1M	n=25 n=13 52.0% P-3M	n=13 n=7 53.8% P-6M	n=10 n=8 80% 3M-6M	n=3 n=3 100% 6M-12M

- * The first n equals the total number of individuals who fell within a particular cell.
- ** The second n represents the number of individuals who received a sentence involving incarceration, followed by the percentage of the total.
- *** Denotes the sentencing guidelines for each cell where P=Probation, M=Months, and Y=Years.

Table 14. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Among Sentences *Consistent* with the Sentencing Guidelines Using Single Count Data (N=29,153).

Variable	b	s.e.	t
Constant	-55.553	2.051	-27.09***
Sex	-1.672	0.882	-1.89
Age	0.165	0.031	5.39***
Nonwhite	1.972	0.999	1.97*
Property	21.233	1.214	17.49***
Drug	-7.955	1.096	-7.26***
Nonwhite*Property	-1.607	1.467	-1.10
Nonwhite*Drug	-7.981	1.283	-6.22***
Plea Agreement	-24.195	1.079	-22.42 ***
Plea, No Agreement	-21.925	1.211	-18.11***
Court Trial	-22.512	1.579	-14.25***
Offense Score	21.000	0.135	155.89***
Offender Score	12.913	0.124	104.49***
Circuit 1	13.537	0.995	13.61***
Circuit 2	20.896	1.393	15.01***
Circuit 3	3.751	0.914	4.10***
Circuit 4	13.697	1.464	9.36***
Circuit 5	5.604	1.090	5.14***
Circuit 6	5.737	1.021	5.62***
Circuit 7	10.390	0.650	15.98***
R ² =0.588			

* p <.05

** p<.01

*** p<.0001

Table 15. Logistic Regression Estimates Predicting the Incarceration Decision Between January 1987 and September 1996 Using Single Count Data Among Sentences *Inconsistent* with the Sentencing Guidelines (N=34,348).

Variable	b	s.e.	X ²
Constant	-0.484	0.121	--
Male	0.556	0.038	219.97***
Age	-0.006	0.002	16.33***
Nonwhite	0.291	0.058	25.53***
Property Offense	-0.478	0.070	46.59***
Drug Offense	-0.413	0.058	51.40***
Nonwhite*Property	0.172	0.088	3.85*
Nonwhite*Drug	-0.115	0.069	2.80
Plea Agreement	-0.383	0.083	21.22***
Plea, No Agreement	-0.465	0.087	28.45***
Court Trial	-0.339	0.103	10.74**
Offense Score	0.077	0.008	97.09***
Offender Score	0.344	0.007	2458.01***
Circuit 1	2.327	0.102	522.87***
Circuit 2	2.185	0.107	416.53***
Circuit 3	-0.117	0.041	8.05**
Circuit 4	2.056	0.100	421.77***
Circuit 5	-0.227	0.046	24.19***
Circuit 6	0.504	0.050	102.46***
Circuit 7	1.464	0.042	1191.49***
Log-likelihood	-18064.562		

* p <.05

** p<.01

***p <.0001

Table 16. Ordinary Least Squares Regression Estimates Predicting Sentence Length in Months Between January 1987 and September 1996 Among Sentences *Inconsistent* with the Sentencing Guidelines Using Single Count Data (N=23,473).

Variable	b	s.e.	t
Constant	-5.705	2.798	-2.04***
Sex	7.846	1.174	6.69***
Age	0.146	0.040	3.65**
Nonwhite	2.602	1.332	1.95*
Property	17.599	1.698	10.37***
Drug	-6.597	1.464	-4.51***
Nonwhite*Property	-2.801	2.088	-1.34
Nonwhite*Drug	0.336	1.703	0.20
Plea Agreement	-48.271	1.589	-30.37 ***
Plea, No Agreement	-43.249	1.746	-24.77***
Court Trial	-39.497	2.238	-17.65***
Offense Score	11.712	0.170	68.83***
Offender Score	4.908	0.153	32.11***
Circuit 1	32.545	1.584	20.55***
Circuit 2	42.313	1.736	24.37***
Circuit 3	11.513	1.226	9.39***
Circuit 4	40.071	1.750	22.90***
Circuit 5	-0.465	1.358	-0.34
Circuit 6	3.087	1.262	2.45*
Circuit 7	9.941	0.905	10.98***
R ² =0.252			

* p <.05

** p<.01

*** p<.0001

Figure 1. Predicted Probability of Incarceration for a Hypothetical Individual with Mean Values on All Variables Except Race.

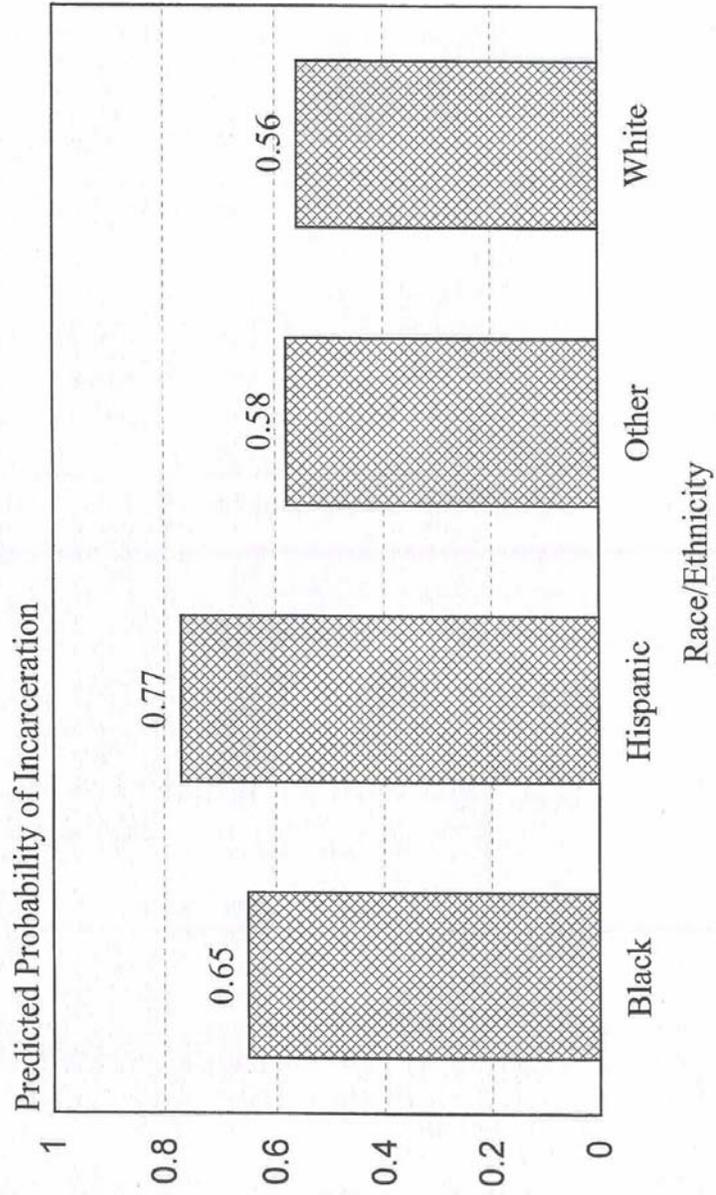


Figure 2. Predicted Probability of Incarceration for a Hypothetical Individual with Mean Values on All Variables Except Race.

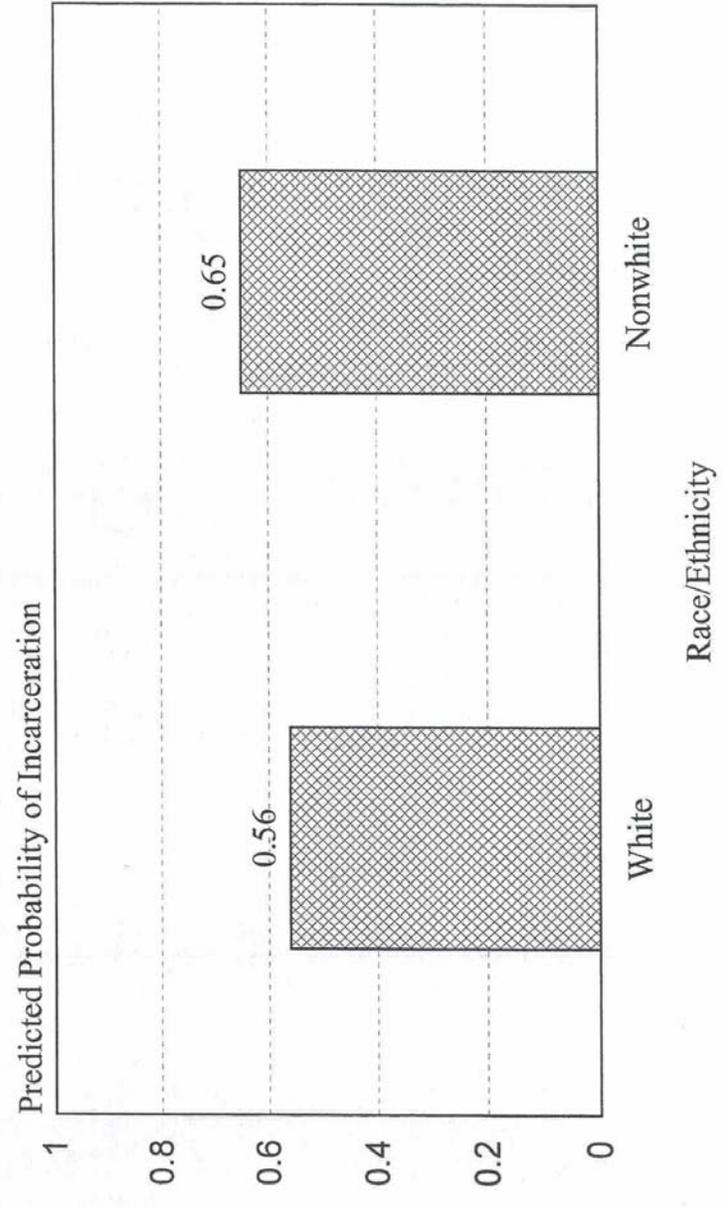


Figure 3. Predicted Probability of Incarceration for a Hypothetical Individual with Mean Values on All Variables Except Offender Score.

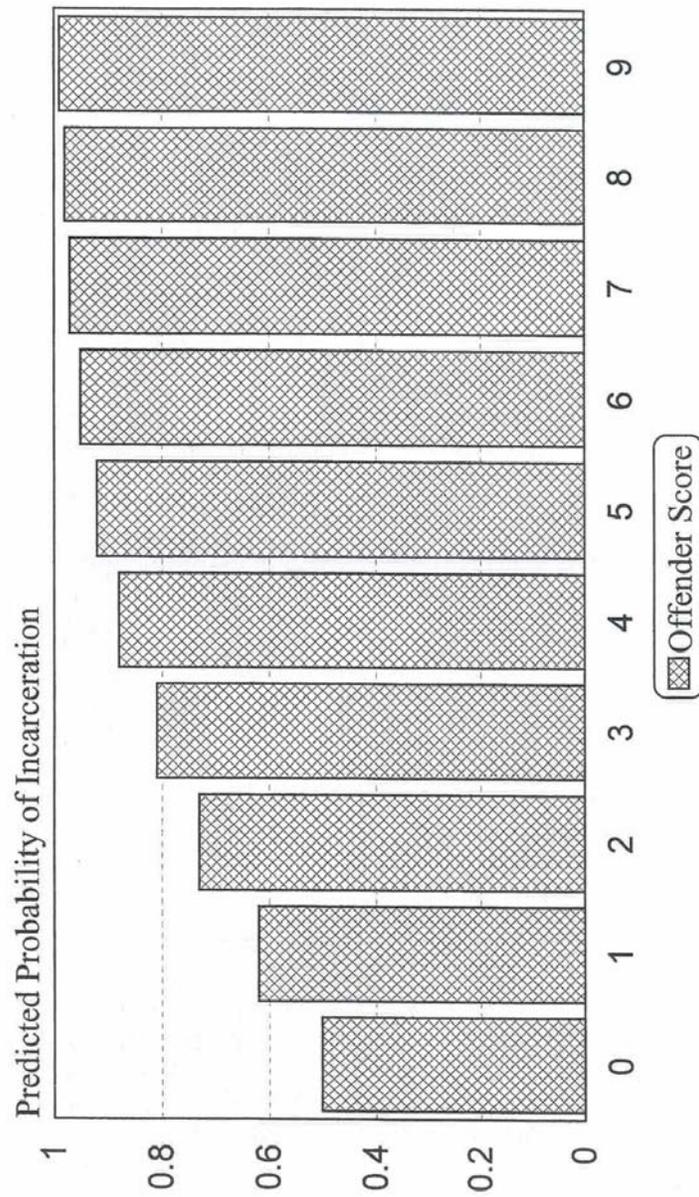
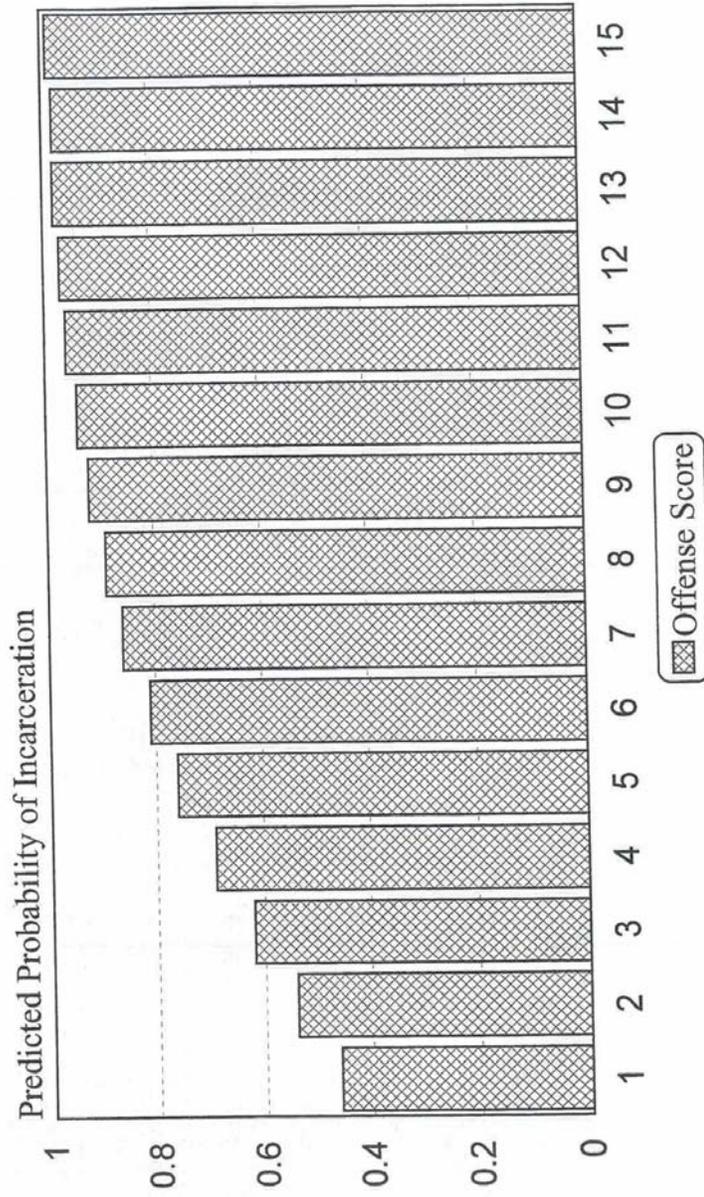


Figure 4. Predicted Probability of Incarceration for a Hypothetical Individual with Mean Values on All Variables Except Offense Score.



References

- Blumstein, A. (1982). "On the Racial Disproportionality of the U.S. States' Prison Populations." Journal of Criminal Law and Criminology, 73(3):1259-1281.
- Blumstein, A., Cohen, J., Martin, S.E., & M. Tonry, eds. (1983). Research on Sentencing: The Search for Reform. 2 vols. Washington, D.C.: National Academy Press.
- Chiricos, T.G. & C. Crawford. (1995). "Race and Imprisonment: A Contextual Assessment of the Evidence." In D. Hawkins (ed.) Ethnicity, Race, and Crime: Perspectives across Time and Place. Albany: State University of New York Press.
- Crutchfield, R.D., Bridges, G.S., & S.R. Pritchford. (1994). "Analytical and Aggregation Biases in Analyses of Imprisonment: Reconciling Discrepancies in Studies of Racial Disparity." Journal of Research in Crime and Delinquency, 31(2):166-182.
- Hagan, J. (1974). "Extra-legal Attributes and Criminal Sentencing: An Assessment of a Sociological Viewpoint." Law and Society Review, 8:357-384.
- Hanushek, E.A. & J.E. Jackson. (1977). Statistical Methods for Social Scientists. San Diego: Academic Press, Inc.
- King, G. (1989). Unifying Political Methodology: The Likelihood Theory of Statistical Inference. Cambridge: Cambridge University Press.
- Kleck, G. (1981). "Racial Discrimination in Criminal Sentencing: A Critical Evaluation of the Evidence with Additional Evidence on the Death Penalty." Criminology, 46:783-805.
- Klepper, S., Nagin, D., & L. Tierney. (1983). "Discrimination in the Criminal Justice System: A Critical Appraisal of the Literature." In Blumstein, A., Cohen, J., Martin, S.E., & M. Tonry (eds.) Research on Sentencing: The Search for Reform. 2 vols. Washington, D.C.: National Academy Press.
- Little, R.J.A. (1992). "Regression with Missing X's: A Review." Journal of the American Statistical Association, 87(420):1227-1237.
- Miethe, T.D. & C.A. Moore. (1985). "Socioeconomic Disparities Under Determinate Sentencing Systems: A Comparison of Preguideline and Postguideline Practices in Minnesota." Criminology, 23(2):337-363.
- Peterson, R.D. & J. Hagan. (1984). "Changing Conceptions of Race: Towards an Account of Anomalous Findings of Sentencing Research." American Sociological Review, 49:56-70.

References

- Pindyck, R.S. & D.L. Rubinfeld. (1991). Econometric Models and Economic Forecasts (third edition). New York: McGraw-Hill.
- Sampson, R.J. & J.L. Lauritsen. (1997). "Racial and Ethnic Disparities in Crime and Criminal Justice in the United States." In M. Tonry (ed.) Ethnicity, Crime, and Immigration: Comparative and Cross-National Perspectives, Crime and Justice: A Review of Research (vol. 21). Chicago: The University of Chicago Press.
- SAS Institute (1990). SAS/STAT User's Guide. Cary, North Carolina: SAS Institute.
- Spohn, C., Gruhl, J. & S. Welch. (1981-82). "The Effect of Race on Sentencing: A Re-examination of an Unsettled Question." Law and Society Review, 16(1):71-88.
- Stolzenberg, L. & S.J. D'Allesio. (1994). "Sentencing and Unwarranted Disparity: An Empirical Assessment of the Long-Term Impact of Sentencing Guidelines in Minnesota." Criminology, 32(2):301-309.
- Tonry, M. (1988). "Structured Sentencing." In M. Tonry & N. Morris (eds.) Crime and Justice: A Review of Research (vol. 10). Chicago: The University of Chicago Press.
- Tonry, M. (1993). "Sentencing Commissions." In M. Tonry (ed.) Crime and Justice: A Review 6 Research (vol. 17). Chicago: The University of Chicago Press.
- Welch, S., Spohn, C. & J. Gruhl. (1985). "Convicting and Sentencing Differences Among Black, Hispanic, and White Males in Six Localities." Justice Quarterly, 2:67-79.
- Wolfgang, M.E. & M. Riedel. (1973). "Race, Judicial Discretion, and the Death Penalty." The Annals of The American Academy of Political and Social Science, 407:119-133.
- Zatz, M. (1987). "The Changing Forms of Racial/Ethnic Biases in Sentencing." Journal of Research in Crime and Delinquency, 24:69-92.