

# A Report of The Heritage Center for Data Analysis

THE DETERMINANTS OF SENTENCING  
IN PENNSYLVANIA:  
DO THE CHARACTERISTICS OF  
JUDGES MATTER?  
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CDA04-02

February 18, 2004



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# THE DETERMINANTS OF SENTENCING IN PENNSYLVANIA: DO THE CHARACTERISTICS OF JUDGES MATTER?

DAVID B. MUHLHAUSEN<sup>1</sup>

## OVERVIEW

Judicial candidates should be evaluated on their legal merits, but diversity issues often arise in the selection process. In the interest of fairness, more women and minorities have been appointed to the bench in recent years than in any previous time in American history. What effects have these judges had on the administration of justice? Do they mete out longer sentences overall? Do minority judges issue harsher sentences to white offenders than their white counterparts? Are they harder on minority offenders?

This paper analyzes Pennsylvania sentencing data from 1998 to determine the effects of the races and genders of offenders and judges on judicial sentencing. It attempts to evaluate whether, or how, the race or gender of judges makes a difference in severity of sentencing. For example, do minority judges sentence minorities differently than white judges sentence white offenders?

Using a Tobit regression model and controlling for such factors as the sentence recommended by the Pennsylvania sentencing guidelines showed that black judges handed

down longer incarceration sentences than white judges. Further, although white judges did not tend to sentence black offenders any more severely than they did white offenders, black judges did tend to sentence black offenders to longer prison terms than white judges gave to white offenders.

This may stem from higher victimization rates in the black community. Black judges simply may be more sensitive to the plight of the victims. Nevertheless, generalizing these sentencing patterns to judges in other states should be done only with caution, because the Pennsylvania guidelines allow judges more discretion in crafting sentences than is allowed by the guidelines in most other states.

## BACKGROUND

For several decades, researchers have studied the determinants of sentencing. In particular, sentencing outcomes in Pennsylvania, for which the data are widely available, have been well studied.<sup>2</sup> However, with the exception of one other published study,<sup>3</sup> most of this research has focused on the effect that offender-related legal and extralegal factors may have on sentencing outcomes. Departing

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1. The findings from a draft of this paper were presented at the American Society of Criminology Conference in Denver, Colorado, on November 22, 2003.

from the majority of this literature, this analysis introduces variables to control for the characteristics of judges.

Given the importance of selecting judges, what are the effects of adding more minority and women judges on the administration of justice? While judicial candidates should be evaluated on their legal merits, diversity issues often dominate the political discourse of the judicial selection process. In particular, this paper analyzes the effects of the races and genders of offenders and judges on judicial sentencing. Does the interaction of the races of the judges and offenders yield different sentencing outcomes? For example, do minority judges sentence minorities differently than white judges sentence white offenders?

Some have proposed that adding minorities to the bench will have noticeable outcomes on criminal processing, especially to reduce disparities in sentencing.<sup>4</sup> Some have proposed that black judges, because of their more liberal views, would be more sympathetic to offenders than white judges.<sup>5</sup> “If black judges are responsive to the black community,” says one study, “then, one would expect them to be less likely to exhibit discrimination against defendants by sentencing them as harshly.”<sup>6</sup>

Differences between the sentences by female and male judges have been attributed to speculation that women are more likely to have liberal political views; thus, women judges will be more lenient in their sentencing decisions than male judges.<sup>7</sup> Several studies have controlled for judges’ characteristics to determine whether judicial decisions are rendered differently by race, ethnicity, gender, and other variables.<sup>8</sup> Most notably, these studies have generally found small differences related to the race of the judge and sentencing outcomes.

## THEORIES OF JUDICIAL DISCRETION

Sentencing decisions involving judges are not isolated events. Judges interact with prosecutors and defense counsels, and sentences are often a product of the plea-bargaining process. Depending on court norms, judges may or may not play a major role in the plea-bargaining process. Further, sentence recommendations from prosecutors are often influential.<sup>9</sup>

Research on sentencing emerged during the 1960s and initially used labeling and conflict theories to interpret sentencing disparities. Alternative explanations did not develop because researchers were interested only in uncovering discrimination

2. Joe Gorton and John L. Boies, “Sentencing Guidelines and Racial Disparity Across Time: Pennsylvania Prison Sentences in 1977, 1983, 1992, and 1993,” *Social Science Quarterly*, Vol. 80, No. 1 (1999), pp. 37–54; John Kramer and Darrell Steffensmeier, “Race and Imprisonment Decisions,” *Sociological Quarterly*, Vol. 34, No. 2 (1993), pp. 357–376; John H. Kramer and Jerry T. Ulmer, “Sentencing Disparity and Departures from Guidelines,” *Justice Quarterly*, Vol. 13, No. 1 (March 1996), pp. 81–105; John H. Kramer and Jerry T. Ulmer, “Downward Departures for Serious Violent Offenders: Local Court ‘Corrections’ to Pennsylvania’s Sentencing Guidelines,” *Criminology*, Vol. 40, No. 4 (2002), pp. 897–932; Darrell Steffensmeier, Jeffery Ulmer, and John Kramer, “The Interaction of Race, Gender, and Age in Criminal Sentencing: The Punishment Cost of Being Young, Black, and Male,” *Criminology*, Vol. 36, No. 4 (1998), pp. 763–797; Darrell Steffensmeier and Chester L. Britt, “Judges’ Race and Judicial Decision Making: Do Black Judges Sentence Differently?” *Social Science Quarterly*, Vol. 82, No. 4 (2001), pp. 759–764; Darrell Steffensmeier and Stephen Demuth, “Ethnicity and Judges’ Sentencing Decisions: Hispanic–Black–White Comparisons,” *Criminology*, Vol. 39, No. 1 (2001), pp. 145–178; Jeffery T. Ulmer, *Social Worlds of Sentencing: Court Communities Under Sentencing Guidelines* (Albany: State University of New York Press, 1997); Jeffery T. Ulmer, “The Rules Have Changed—So Proceed with Caution: A Comment on Engen and Gainey’s Method for Modeling Sentencing Outcomes Under Guidelines,” *Criminology*, Vol. 38, No. 4 (2000), pp. 1231–1242; and Jeffery T. Ulmer and John H. Kramer, “Court Communities Under Sentencing Guidelines: Dilemmas of Formal Rationality and Sentencing Disparity,” *Criminology*, Vol. 34, No. 3 (1996), pp. 383–408.
3. Steffensmeier and Britt, “Judges’ Race and Judicial Decision Making.”
4. Sheldon Goldman, “Should There Be Affirmative Action for the Judiciary?” *Judicature*, Vol. 62 (1979), pp. 488–494, and Coramae Mann, *Unequal Justice: A Question of Color* (Bloomington: Indiana University Press, 1993).
5. Susan Welch, Michael Combs, and Hohn Gruhl, “Do Black Judges Make a Difference?” *American Journal of Political Science*, Vol. 32, No. 1 (1988), pp. 126–136.
6. Welch *et al.*, “Do Black Judges Make a Difference?” p. 127.
7. John Gruhl, Cassia Spohn, and Susan Welch, “Women as Policymakers: The Case of Trial Judges,” *American Journal of Political Science*, Vol. 25, No. 2 (1981), pp. 308–322.

while neglecting the influence of such legal factors as criminal history and the plea-bargaining process. Today, two prominent theories of judicial discretion are the structural organizational approach<sup>10</sup> and “focal concerns” theory.<sup>11</sup>

**Structural Organizational Approach.** The structural organizational approach recognizes the role of rational choice in decision making and provides a useful model for understanding judicial discretion.<sup>12</sup> The rational model assumes that a decision maker (1) accurately defines the problem, (2) reviews all possible alternatives and accurately identifies the outcomes associated with each alternative, and (3) chooses the best alternative after weighing each one’s benefits and costs.

In practice, the rational process of decision makers is not so clear-cut. Rather than weighing all possible alternatives, time constraints limit decision makers to considering only a few alternatives. Further, the rational model is too demanding because knowledge about potential outcomes is often fragmentary or even unattainable. Applying

the rational model to judicial discretion is problematic because the judicial actors do not have a perfect knowledge of an offender’s future offenses.

While the rational model has drawbacks, the study of administrative behavior provides an important framework for understanding the decision-making processes used by judicial actors.<sup>13</sup> The late Herbert A. Simon, 1978 Nobel Laureate in Economics, acknowledged that “human behavior is intently rational, but only boundedly so.”<sup>14</sup> Thus, “In making administrative decisions, it is continually necessary to choose factual premises whose truth or falsehood is not definitely known and cannot be determined with certainty with the information and time available for reaching the decision.”<sup>15</sup> Decision makers use “simple rules of thumb that do not make impossible demands upon their capacity for thought.”<sup>16</sup> In the end, they engage in “bounded rationality,” where the chosen alternative is satisfactory or “good enough” given the circumstances.<sup>17</sup>

8. Charles E. Frazer and Wilbur E. Bock, “Effects of Court Officials on Sentence Severity: Do Judges Make a Difference?” *Criminology*, Vol. 20, No. 2 (1982) pp. 257–272; Gruhl *et al.*, “Women as Policy Makers”; Malcom D. Holmes, Hareon M. Hosch, Howard C. Daudistel, Dolores A. Perez, and Joseph B. Graves, “Judges’ Ethnicity and Minority Sentencing: Evidence Concerning Hispanics,” *Social Science Quarterly*, Vol. 74, No. 3 (1993), pp. 496–506; Herbert Kritzer, “Political Correlates of the Behavior of Federal District Judges: A ‘Best Case’ Analysis,” *Journal of Politics*, Vol. 40 (February 1978), pp. 25–58; Jon’a Meyer and Paul Jesilow, “*Doing Justice*” in *the People’s Court: Sentencing by Municipal Court Judges* (Albany: State University of New York, 1997); Martha Myers, “Social Background and the Sentencing Behavior of Judges,” *Criminology*, Vol. 26, No. 4 (1988), pp. 649–675; Cassia Spohn, “Decision Making in Sexual Assault Cases: Do Black and Female Judges Make a Difference?” *Women and Criminal Justice*, Vol. 2, No. 1 (1990), pp. 83–105; Cassia Spohn, “The Sentencing Decisions of Black and White Judges: Expected and Unexpected Similarities,” *Law and Society Review*, Vol. 24, No. 5 (1990), pp. 1197–1216; Steffensmeier and Britt, “Judges’ Race and Judicial Decision Making”; Thomas M. Uhlman, “Black Elite Decision Making: The Case of Trial Judges,” *American Journal of Political Science*, Vol. 22 (November 1978), pp. 884–895; Thomas Walker and Deborah Barrow, “The Diversification of the Federal Bench: Policy and Process Ramifications,” *Journal of Politics*, Vol. 47 (May 1985), pp. 598–617; Welch *et al.*, “Do Black Judges Make a Difference?”; and John D. Wooldredge, “Analytical Rigor in Studies of Disparities in Criminal Cases Processing,” *Journal of Quantitative Criminology*, Vol. 14, No. 5 (1998), pp. 155–179.
9. Samuel Walker, *Taming the System: The Control of Discretion in Criminal Justice, 1950–1990* (New York: Oxford University Press, 1993).
10. Celesta A. Albonetti, “An Integration of Theories to Explain Judicial Discretion,” *Social Problems*, Vol. 38, No. 2 (1991), pp. 247–266.
11. Kramer and Ulmer, “Downward Departures for Serious Violent Offenders”; Steffensmeier and Demuth, “Ethnicity and Judges’ Sentencing Decisions,” pp. 145–178; Steffensmeier *et al.*, “The Interaction of Race, Gender, and Age in Criminal Sentencing”; and Ulmer and Kramer, “Court Communities Under Sentencing Guidelines.”
12. Albonetti, “An Integration of Theories to Explain Judicial Discretion.”
13. James G. March and Herbert A. Simon, *Organizations* (New York: Wiley, 1958), and Herbert A. Simon, *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations*, 4th ed. (New York: Free Press, 1997).
14. Simon, *Administrative Behavior*, p. 88.
15. *Ibid.*, p. 60.
16. *Ibid.*, p. 119.

Further, “in the situation of having incomplete knowledge, the actor attempts to reduce uncertainty by relying upon a rationality that is the product of habit and social structure.”<sup>18</sup> “[O]rganizational arrangements such as established operating procedures, a division of labor, a hierarchy of authority, formal channels of communication, professional training and, finally, indoctrination” can compensate for the limits of rational decision making.<sup>19</sup> Decision makers attempt to reach “a measure of rationality by developing ‘patterned responses’ that serve to avoid, or at least, reduce uncertainty in obtaining a desired outcome.”<sup>20</sup> Decision making is then based on a limited search of information that resembles “satisficing” rather than searching for optimal solutions.<sup>21</sup> In the context of sentencing, judges consider both the offender’s danger to society and the likelihood that he or she will commit future offenses as inputs into sentencing decisions.<sup>22</sup>

Judicial discretion is likely to be influenced by uncertainty avoidance because judges have incomplete knowledge about the likelihood of future offending by those who appear before their courts. Uncertainty is related to offender characteristics, the disposition process, and punishment.<sup>23</sup>

Case information is relevant to reducing uncertainty about recidivism.<sup>24</sup> Judges process information about offenders in order to determine the likelihood of future offending. Thus, the severity of sentences for offenders regarded as more likely to continue their criminal activity may be greater

than those imposed on offenders regarded as less likely to recidivate. Detected disparities in sentencing based on extralegal factors may be a product of bounded rationality, not racial prejudice.

**Focal Concerns Theory.** Focal concerns theory is very similar to bounded rationality in that judges have limited information, so they use substantively rational criteria in their decision process.<sup>25</sup> These criteria are (1) the blameworthiness of the offender, (2) community protection, and (3) the practical consequences of judicial decisions for organizations and individuals. These criteria potentially allow for disparities in sentencing outcomes.<sup>26</sup>

- Blameworthiness is established in the law and associated with retribution. The offender’s potential punishment escalates according to culpability and the gravity of the harm done.<sup>27</sup>
- Concern for community protection causes judicial actors to contemplate the necessity of incapacitation to avoid future crimes, general deterrence, and the potential rehabilitation of the offender.<sup>28</sup> A prior criminal history can increase the perceptions of blameworthiness and risk of recidivism.<sup>29</sup>
- The practical consequences of judicial decisions for organizations and individuals affect sentencing outcomes. Organizational consequences include managing working relationships among court actors, guaranteeing the uninterrupted progression of cases, and being

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17. *Ibid.*

18. Albonetti, “An Integration of Theories to Explain Judicial Discretion,” pp. 248–249.

19. *Ibid.*, p. 249.

20. *Ibid.*

21. Simon, *Administrative Behavior*.

22. Albonetti, “An Integration of Theories to Explain Judicial Discretion.”

23. *Ibid.*

24. *Ibid.*

25. Kramer and Ulmer, “Downward Departures for Serious Violent Offenders,” and Ulmer and Kramer, “Court Communities Under Sentencing Guidelines.”

26. Steffensmeier and Demuth, “Ethnicity and Judges’ Sentencing Decisions”; Steffensmeier *et al.*, “The Integration of Race, Gender, and Age in Criminal Sentencing”; and Ulmer and Kramer, “Court Communities Under Sentencing Guidelines.”

27. Steffensmeier *et al.*, “The Integration of Race, Gender, and Age in Criminal Sentencing.”

28. Steffensmeier *et al.*, “The Integration of Race, Gender, and Age in Criminal Sentencing,” and Ulmer and Kramer, “Court Communities Under Sentencing Guidelines.”

29. Steffensmeier and Demuth, “Ethnicity and Judges’ Sentencing Decisions.”

cognizant of correctional resources. Practical consequences relating to the individual offender that may sway judicial decisions include the potential effects of the sentence on the offender and the offender's family.<sup>30</sup> In addition, court actors may consider the likely impact of future crimes by the offender on the public's assessment of the court and their careers.<sup>31</sup>

Focal concerns theory is similar to the structural organizational approach in that judges "confront the goal of protecting the public and preventing recidivism in the context of high uncertainty about the offenders' future behavior."<sup>32</sup> Thus, predictions about the dangerousness of the offender are influenced by attributions predicted with respect to the nature of the crime, case information, the offender's criminal history, and potentially other background characteristics of the offender such as drug abuse, education, employment, family circumstances, and community ties.<sup>33</sup> The interplay of these concerns is used to reduce uncertainty about the offender.

## PREVIOUS SENTENCING RESEARCH

Previous sentencing research has consistently found that legal factors (e.g., offense type, offense

severity, and criminal history) are the principal determinants of sentencing outcomes.<sup>34</sup> However, the same set of literature offers conflicting conclusions about the role of race, so the impact of race on sentencing cannot be easily deciphered into neat conclusions.<sup>35</sup> While the findings on the effect of an offender's race have been inconsistent, the literature suggests that gender has a more uniform effect on sentencing outcomes.

Women are less likely to be incarcerated and more likely to receive shorter sentences.<sup>36</sup> Some have proposed that the greater leniency displayed toward women results from judicial paternalism.<sup>37</sup> Conversely, others argue that the leniency displayed toward women results from concern over the effect of incarcerating women with dependent children<sup>38</sup> and that stereotyping results in women being perceived as less threatening and less likely to recidivate.<sup>39</sup>

For brevity, the literature review will focus on the studies of sentencing in Pennsylvania and studies that have controlled for the characteristics of sentencing judges.

## PENNSYLVANIA SENTENCING STUDIES

Throughout the Pennsylvania sentencing research, criminal history and offense severity con-

30. Steffensmeier *et al.*, "The Integration of Race, Gender, and Age in Criminal Sentencing."

31. Steffensmeier and Demuth, "Ethnicity and Judges' Sentencing Decisions."

32. Steffensmeier *et al.*, "The Integration of Race, Gender, and Age in Criminal Sentencing," p. 767.

33. Steffensmeier and Demuth, "Ethnicity and Judges' Sentencing Decisions," and Steffensmeier *et al.*, "The Integration of Race, Gender, and Age in Criminal Sentencing."

34. Steffensmeier *et al.*, "The Integration of Race, Gender, and Age in Criminal Sentencing."

35. Robert J. Sampson and Janet L. Lauritsen, "Racial and Ethnic Disparities in Crime and Criminal Justice in the United States," in *Ethnicity, Crime, and Immigration: Comparative and Cross-National Perspectives*, ed. Michael Tonry (Chicago: University of Chicago Press, 1997), pp. 311–374, and Ulmer, "Social Worlds of Sentencing."

36. Celesta A. Albonetti, "Sentencing Under the Federal Sentencing Guidelines: Effects of Defendant Characteristics, Guilty Pleas, and Departures on Sentencing Outcomes for Drug Offenses," *Law and Society Review*, Vol. 31, No. 4 (1997), pp. 789–822; Shawn Bushway and Anne Morrison Piehl, "Judging Judicial Discretion: Legal Factors and Racial Discrimination in Sentencing," *Law and Society Review*, Vol. 35, No. 4 (2001), pp. 733–764; Gorton and Boies, "Sentencing Guidelines and Racial Disparity Across Time"; Kramer and Steffensmeier, "Race and Imprisonment Decisions"; Steffensmeier and Britt, "Judges' Race and Judicial Decision Making"; Steffensmeier *et al.*, "The Interaction of Race, Gender, and Age in Criminal Sentencing"; Ulmer, *Social Worlds of Sentencing*; and Ulmer and Kramer, "Court Communities Under Sentencing Guidelines."

37. Kathleen Daly, "Discrimination in the Criminal Courts: Family, Gender, and the Problem of Equal Treatment," *Social Forces*, Vol. 66 (1987), pp. 152–175.

38. Darrell Steffensmeier, "Assessing the Impact of the Women's Movement on Sex-Based Differences in the Handling of Adult Criminal Defendants," *Crime and Delinquency*, Vol. 23, No. 3 (1980), pp. 344–356.

39. Albonetti, "An Integration of Theories to Explain Judicial Discretion."

sistently have positive relationships with the decision to incarcerate and with sentence length.<sup>40</sup> However, one study of 1983 data found a negative association between criminal history and incarceration sentence length.<sup>41</sup> Of the studies that controlled for the number of convictions, the studies found mostly positive correlations or, in some cases, no effect on sentencing outcomes.<sup>42</sup>

The extralegal factors, particularly race and gender, influenced sentencing outcomes. The studies consistently found that being female reduced one's incarceration chances and sentence length.<sup>43</sup>

Nearly as consistent, the studies found indications that black offenders were more likely to be incarcerated and receive longer sentences than white offenders.<sup>44</sup> However, the differences were often small.

Nevertheless, there are two exceptions in the literature.<sup>45</sup> Comparing sentencing in 1977, 1983, 1992, and 1993, one study found interesting changes in the effect of race on sentence length. In 1977 and 1983, black offenders could expect to receive longer sentence lengths, while by 1992 the differences between black and white offenders were statistically insignificant. And in 1993, black offenders received slightly shorter sentences com-

pared to white offenders. The study concluded that the changes in the Pennsylvania guidelines have substantially reduced the impact of race on incarceration length.<sup>46</sup> While another study found that from 1991 to 1994, black offenders in four counties were more likely to be incarcerated, their sentence length was almost one month shorter than the incarceration lengths of white offenders.<sup>47</sup>

**Characteristics of Judges and Sentencing.** Sentencing research has generally focused on the legal and extralegal factors associated with offenders while omitting the extralegal characteristics of the judges in the analyses. Given that they have differing backgrounds and interpretations of the law, there is reason to believe that judges may allocate sentences differently.

According to Jon'a Meyer, Assistant Professor in the Department of Sociology at Rutgers University, Camden, and Paul Jesilow, Associate Professor in the Department of Criminology, Law, and Society at the University of California, Irvine, "At a time when black justices were almost nonexistent, researchers had assumed that disparities in sentences resulted from racism by white judges against black defendants."<sup>48</sup> The studies that have

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40. Gorton and Boies, "Sentencing Guidelines and Racial Disparity Across Time"; Kramer and Steffensmeier, "Race and Imprisonment Decisions"; Kramer and Ulmer, "Downward Departures for Serious Violent Offenders"; Steffensmeier *et al.*, "The Interaction of Race, Gender, and Age in Criminal Sentencing"; Steffensmeier and Britt, "Judges' Race and Judicial Decision Making"; Steffensmeier and Demuth, "Ethnicity and Judges' Sentencing Decisions"; Ulmer, *Social Worlds of Sentencing*; Ulmer, "The Rules Have Changed"; and Ulmer and Kramer, "Court Communities Under Sentencing Guidelines."
41. Gorton and Boies, "Sentencing Guidelines and Racial Disparity Across Time."
42. Kramer and Ulmer, "Downward Departures for Serious Violent Offenders"; Steffensmeier *et al.*, "The Interaction of Race, Gender, and Age in Criminal Sentencing"; Steffensmeier and Britt, "Judges' Race and Judicial Decision Making"; Steffensmeier and Demuth, "Ethnicity and Judges' Sentencing Decisions"; Ulmer, *Social Worlds of Sentencing*; Ulmer, "The Rules Have Changed"; and Ulmer and Kramer, "Court Communities Under Sentencing Guidelines."
43. Gorton and Boies, "Sentencing Guidelines and Racial Disparity Across Time"; Kramer and Steffenseier, "Race and Imprisonment Decisions"; Kramer and Ulmer, "Downward Departures for Serious Violent Offenders"; Steffensmeier *et al.*, "The Interaction of Race, Gender, and Age in Criminal Sentencing"; Steffensmeier and Britt, "Judges' Race and Judicial Decision Making"; Ulmer, *Social Worlds of Sentencing*; Ulmer, "The Rules Have Changed"; and Ulmer and Kramer, "Court Communities Under Sentencing Guidelines."
44. Gorton and Boies, "Sentencing Guidelines and Racial Disparity Across Time"; Kramer and Steffenseier, "Race and Imprisonment Decisions"; Kramer and Ulmer, "Downward Departures for Serious Violent Offenders"; Steffensmeier *et al.*, "The Interaction of Race, Gender, and Age in Criminal Sentencing"; Steffensmeier and Demuth, "Ethnicity and Judges' Sentencing Decisions"; Ulmer, *Social Worlds of Sentencing*; Ulmer, "The Rules Have Changed"; and Ulmer and Kramer, "Court Communities Under Sentencing Guidelines."
45. Gorton and Boies, "Sentencing Guidelines and Racial Disparity Across Time," and Steffensmeier and Britt, "Judges' Race and Judicial Decision Making."
46. Gorton and Boies, "Sentencing Guidelines and Racial Disparity Across Time."
47. Steffensmeier and Britt, "Judges' Race and Judicial Decision Making."

examined the effect of the characteristics of judges have generally found little differences in judicial decisions between black and white judges.<sup>49</sup> The method used in this paper controls for differences in judges' race, ethnicity, gender, and time served on the bench.

*Race and Ethnicity.* The majority of studies that controlled for the race and ethnicity of the judges examined differences between white and black judges,<sup>50</sup> while a few analyzed differences between Hispanic and white judges.<sup>51</sup> One analysis of sentencing in four Pennsylvania counties from 1991 to 1994 found that black judges were more likely to incarcerate offenders than their white counterparts.<sup>52</sup> However, the incarceration lengths of the sentences under black judges did not differ statistically from the incarceration lengths of sentences by white judges.<sup>53</sup>

A 1978 study of city judges did find statistically significant differences in sentencing decisions between black and white judges.<sup>54</sup> However, the sizes of the differences were meager. Both black and white judges imposed slightly harsher sentences on black offenders.<sup>55</sup> Further, a different study found that rulings by black and white federal district judges appointed by President Jimmy Carter were not significantly different in terms of being pro-defendant or pro-prosecution.<sup>56</sup> Thus,

the study's authors concluded that black judges are not more sympathetic to offenders than white judges.<sup>57</sup> When the analysis was done by gender, the same held true: Rulings by female judges did not differ statistically from rulings by male judges.<sup>58</sup>

A 1988 study found that in a Northeastern city its authors called "Metro City," the fact that the judge was white or black did not by itself make a statistical difference on the decision to incarcerate. However, when the data were limited to white offenders, black judges were more likely to incarcerate. Conversely, when the authors limited the data to black offenders, the judge's race did not affect incarceration decisions. In terms of sentence length, black judges imposed shorter prison sentences compared to their white counterparts. When the data were split by the race of the offender, black judges did not sentence white offenders to longer terms, while they were more lenient to black offenders. Further, the same study found that black judges were more likely than white judges to incarcerate white offenders. Black judges were more likely to impose shorter sentence lengths on black offenders, while white judges were not more lenient toward white offenders.<sup>59</sup>

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48. Meyer and Jesilow, "Doing Justice" in the People's Court, p. 42.

49. Frazier and Bock, "Effects of Court Officials on Sentence Severity"; Gruhl *et al.*, "Women as Policy Makers"; Holmes *et al.*, "Judges' Ethnicity and Minority Sentencing"; Kritzer "Political Correlates of the Behavior of Federal District Judges"; Meyer and Jesilow, "Doing Justice" in the People's Court; Myers, "Social Background and the Sentencing Behavior of Judges"; Steffensmeier and Britt, "Judges' Race and Judicial Decision Making"; Spohn, "Decision Making in Sexual Assault Cases"; Spohn, "The Sentencing Decisions of Black and White Judges"; Uhlman, "Black Elite Decision Making"; Walker and Barrow, "The Diversification of the Federal Bench"; Welch *et al.*, "Do Black Judges Make a Difference?"; and Wooldredge, "Analytical Rigor in Studies of Disparities in Criminal Case Processing."

50. Spohn, "Decision Making in Sexual Assault Cases"; Spohn, "The Sentencing Decisions of Black and White Judges"; Uhlman, "Black Elite Decision Making"; Walker and Barrow, "The Diversification of the Federal Bench"; and Welch *et al.*, "Do Black Judges Make a Difference?"

51. Holmes *et al.*, "Judges' Ethnicity and Minority Sentencing," and Wooldredge, "Analytical Rigor in Studies of Disparities in Criminal Case Processing."

52. Steffensmeier and Britt, "Judges' Race and Judicial Decision Making."

53. *Ibid.*

54. Uhlman, "Black Elite Decision Making."

55. *Ibid.*

56. Walker and Barrow, "The Diversification of the Federal Bench."

57. *Ibid.*

58. *Ibid.*

59. Welch *et al.*, "Do Black Judges Make a Difference?"



More recently, two 1990 studies found a lack of substantial differences in sentence outcomes between black and white judges in Detroit. In the first study, conviction and incarceration decisions in sexual assault cases of black and white offenders were similar, regardless of whether the presiding judge was black or white. However, female judges did impose longer incarceration sentences than male judges. The difference between male and female judges is due to black female judges imposing longer sentences when compared to black male judges.<sup>60</sup>

The second study found that black judges were less likely to incarcerate in violent felony cases, but the difference was small. In terms of sentence length, expected minimum sentences by black and white judges were not statistically different. However, both black and white judges imposed harsher sentences on black offenders than white offenders. The study concluded that the harsher treatment of black offenders cannot be ascribed exclusively to white judges.<sup>61</sup>

In contrast to studies that examine only sentencing differences between white and black judges, a study of sentencing in El Paso County, Texas, found that Hispanic judges sentenced white offenders and Hispanic offenders more harshly than white judges sentenced white offenders. Further, while white judges sentenced Hispanic offenders more harshly than they sentenced whites, Hispanic judges sentenced white offenders to more severe sentences. The study concluded that Hispanic judges are not more empathetic toward minority offenders, because white judges

are more lenient than Hispanic judges. However, these findings should be treated with caution because the study's methodology<sup>62</sup> could be misleading.<sup>63</sup>

In a study of judges from a metropolitan county in southern California, the authors interviewed the judges in order to develop explanations for sentencing decisions. The judges' stated goal of attempting to "do justice" might suggest a manner in which bias sneaks into judicial decision making. The extralegal factors that the judges reported as influencing their decisions were defendant attitudes and motivations for committing the crimes. No differences were found between sentencing by white judges and sentencing by minority judges.<sup>64</sup>

A study of sentencing in Dona Ana County, New Mexico, suggests that Hispanic judges were less likely to incarcerate but were involved in the application of longer incarceration sentences than white judges. However, white judges were more likely than their Hispanic counterparts to impose longer incarceration sentences on Hispanic offenders.<sup>65</sup>

The lack of substantial differences in sentencing between black and white judges has led researchers to propose three possible explanations:

- The judicial recruitment process screens out nonconformist candidates, resulting in those minorities who are selected for judgeships representing conventional legal norms.<sup>66</sup>
- Socialization processes within the courts force minority judges to accept the norms of the court community.<sup>67</sup> The role of precedents and

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60. Spohn, "Decision Making in Sexual Assault Cases."

61. Spohn, "The Sentencing Decisions of Black and White Judges."

62. Holmes *et al.*, "Judges' Ethnicity and Minority Sentencing."

63. The study used an ordinary least squares (OLS) model to analyze an ordinal dependent variable that was assigned unequally distanced numerical values for deferred adjudication, probation, and incarceration sentences. The intervals between these categories of sentencing were not spaced equally by severity. Yet treating an ordinal dependent variable as if it were an interval variable assumes that the distances between adjacent categories are equal. When the intervals between the categories are not equal, the results from OLS can be misleading. Scott J. Long, *Regression Models for Categorical and Limited Dependent Variables* (Thousand Oaks, Calif.: Sage Publications, 1997).

64. Meyer and Jesilow, "Doing Justice" in the People's Court.

65. Wooldredge, "Analytical Rigor in Studies of Disparities in Criminal Case Processing."

66. Holmes *et al.*, "Judges' Ethnicity and Minority Sentencing"; Spohn, "The Sentencing Decisions of Black and White Judges"; and Uhlman, "Black Elite Decision Making."

67. Holmes *et al.*, "Judges' Ethnicity and Minority Sentencing"; Spohn, "The Sentencing Decisions of Black and White Judges"; and Welch *et al.*, "Do Black Judges Make a Difference?"

the court community, in particular prosecutors and defense attorneys, can constrain judges' discretion.<sup>68</sup>

- Concern for crime victims may play a greater role than concerns over minority sentencing disparities in influencing sentencing decisions by minority judges.<sup>69</sup> Some propose that the disparity in the sentencing of black offenders by black judges may be caused by concern for black victims. In addition, black judges may perceive themselves as possible victims of black-on-black crime.<sup>70</sup> Given that U.S. Department of Justice data indicate that crime is largely intraracial,<sup>71</sup> the assumption that minority judges would be more inclined to show leniency to minority offenders at the expense of minority victims may be unfounded.

*Gender.* While one study proposed that female judges would be more lenient than their male counterparts, the authors found otherwise. Female judges were slightly more likely to sentence offenders to prison, while the difference in sentence length was insignificant. When the data were separately analyzed according to the offender's gender, female judges were more likely than male judges to sentence both female and male offenders to prison, while the findings were statistically insignificant for sentence length. The study concluded that male judges have paternalistic attitudes toward female offenders.<sup>72</sup>

In a study of sexual assault cases, female judges were not more likely to incarcerate, but they delivered longer incarceration sentences than their male counterparts.<sup>73</sup> However, a different study of sentencing in misdemeanor courts found that male judges were 3.5 times more likely to incarcerate than their female counterparts.<sup>74</sup>

*Other Judge-Related Factors.* While the previous studies examined the relationship between the characteristics of judges and sentencing focused on race and ethnicity, a 1988 study analyzed the effect of the judge's age, prior employment as a prosecutor, and religion on sentencing. Older judges imposed harsher sentences than their younger counterparts. Former prosecutors were more likely to incarcerate, but the sentences they imposed did not differ in length from those imposed by judges without prosecutorial experience. Southern Baptist and fundamentalist judges were more likely to incarcerate but imposed shorter sentences than judges of other faiths.<sup>75</sup> However, the differences were small.

Although the study concluded that the social background of judges had either no influence or only a slight influence on sentencing, interacting the judge characteristics with the offender characteristics produced interesting findings. Southern Baptist and fundamentalist judges were more likely to incarcerate black offenders but displayed greater leniency in the length of prison sentences imposed on black offenders. These same judges were also more likely to incarcerate defendants who were older and convicted of robbery or burglary. However, the length of prison sentences was generally unaffected by the judge's religion, except for black, violent, and drug offenders who received shorter prison sentences when the overseeing judge was Southern Baptist or fundamentalist. Older judges administered more lenient sentences for white offenders and those convicted of burglary, while judges who were formerly prosecutors were more likely to incarcerate violent offenders and female offenders.<sup>76</sup>

Unique among the literature, one study analyzing federal sentencing of draft resisters during the

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68. Welch *et al.*, "Do Black Judges Make a Difference?"

69. Holmes *et al.*, "Judges' Ethnicity and Minority Sentencing," and Spohn, "The Sentencing Decisions of Black and White Judges."

70. Spohn, "The Sentencing Decisions of Black and White Judges."

71. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, *Criminal Victimization in the U.S., 2001 Statistical Tables*, NCJ-197064 (Washington, D.C.: U.S. Government Printing Office, 2003).

72. Gruhl *et al.*, "Women as Policy Makers."

73. Spohn, "Decision Making in Sexual Assault Cases."

74. Meyer and Jesilow, *Doing Justice in the People's Court*.

75. Myers, "Social Background and the Sentencing Behavior of Judges."

Vietnam War controlled for a number of judge characteristics overlooked by the other studies. The political party of the appointing President, prior military service, prior judicial experience, veterans group membership, and having draft-age sons had no statistically significant correlation with sentencing outcomes. However, the age of the judge had a statistically positive relationship with sentencing outcomes, while tenure of the judge had a negative relationship.<sup>77</sup> Similarly, a different study of federal sentencing in Florida found that prior prosecutorial experience, age, and years served on the bench had statistically insignificant relationships with decisions to incarcerate.<sup>78</sup>

**THE DATA**

The data used in this analysis are based on criminal sentencing in Pennsylvania in 1998 under the state’s 1997 sentencing guidelines. The sentencing data were obtained from the Pennsylvania Commission on Sentencing (PCS) and include felony and misdemeanor sentences.<sup>79</sup> The PCS does not require judges to report life and death sentences, so these cases are excluded from the analysis. Further, the PCS does not collect data on sentences in juvenile court. In addition, the analysis was limited to the offender’s most serious conviction, which is identified in the dataset.

In order to analyze the relationship between sentencing and the characteristics of judges, the race, ethnicity, gender, and time served on the bench for 290 judges were added to the PCS data. The descriptive statistics for these judges are presented in Table 1. The majority of the judges are

Descriptive Statistics for Pennsylvania Judges		
	Frequency	Percent
Female	40	13.8
Male	250	86.2
Total	290	100.0
Black	16	5.5
Hispanic	2	0.7
White	272	93.8
	Mean	Standard Deviation
Years served on the bench by 1998	11.15	7.91
Number of observations	290	

Source: Data collected by the York Daily Record.

male and white. In 1998, the average time served on the bench was just over 11 years. The collection of the information on judges was made possible by the assistance of the *York Daily Record* in York, Pennsylvania; however, the findings and conclusions drawn in this report do not necessarily reflect the views of the *York Daily Record*.<sup>80</sup>

The variables in the analysis are intended to measure the effect of legal factors, extralegal factors, characteristics of the judges, and jurisdiction characteristics on the length of incarceration sentences. The descriptive statistics for the variables in the analysis are presented in Table 2.

In this analysis, three models are estimated. The first model analyzes the effect of the legal and extra-legal factors that relate to the offender. The second model controls for the same factors as the

76. *Ibid.*

77. Kritzer, “Political Correlates of the Behavior of Federal District Judges.”

78. Frazier and Bock, “Effects of Court Officials on Sentence Severity.”

79. Pennsylvania Commission on Sentencing, “Pennsylvania Sentencing Data: 1998.”

80. The *York Daily Record* published a series of news articles based on analyses of sentencing in the entire state of Pennsylvania and selected counties. See Sean Adkins, “Judges’ Characteristics a Factor,” *York Daily Record*, December 27, 20002; Joan Concilio, “Regression Analysis Breaks New Ground,” *York Daily Record*, December 27, 2002; Sharon Smith, “Justice May be Black and White,” *York Daily Record*, December 27, 2002; and Michelle Star, “Some Say Money Matters Most,” *York Daily Record*, December 27, 2002, at <http://ydr.com/news/justice/?PHPSESSID=e8ebc15c8cb3198282b0fb1d872a1424> (February 9, 2004).

Table 2

CDA 04-02

### Descriptive Statistics

Variable	All Convictions		Incarceration Convictions Only	
	Mean	Standard Deviation	Mean	Standard Deviation
Mimimum incarceration sentence (months)	3.88	11.40	7.52	14.99
Presumptive sentence (months)	5.47	11.06	7.95	14.19
Number of convictions	2.40	3.99	2.34	3.76
Property offense	0.224	0.417	0.188	0.391
Violent offense	0.057	0.232	0.088	0.284
Drug offense	0.174	0.379	0.143	0.350
Female offender	0.173	0.379	0.118	0.323
Black offender	0.273	0.446	0.261	0.439
Hispanic offender	0.052	0.223	0.060	0.238
Other race/ethnicity offender	0.007	0.081	0.006	0.077
Age of offender	31.23	10.10	31.81	10.09
Age of offender squared	1077.20	734.68	1113.88	739.20
Bench trial	0.024	0.154	0.028	0.165
Negotiated guilty plea	0.613	0.487	0.585	0.493
Non-negotiated guilty plea	0.196	0.397	0.216	0.411
Nolo contendere	0.010	0.098	0.008	0.088
Other disposition	0.006	0.078	0.009	0.092
Female judge	0.134	0.341	0.126	0.332
Black judge	0.035	0.184	0.038	0.190
Hispanic judge	0.012	0.107	0.011	0.103
Male judge, female offender	0.152	0.359	0.104	0.305
Female judge, male offender	0.113	0.316	0.112	0.315
Female judge, female offender	0.022	0.146	0.014	0.118
White judge, black offender	0.244	0.430	0.231	0.422
White judge, Hispanic offender	0.049	0.216	0.056	0.230
White judge, other offender	0.006	0.076	0.005	0.071
Black judge, white offender	0.009	0.093	0.009	0.095
Black judge, black offender	0.023	0.149	0.024	0.154
Black judge, Hispanic offender	0.002	0.050	0.003	0.053
Black judge, other offender	0.001	0.023	0.001	0.025
Hispanic judge, white offender	0.004	0.061	0.003	0.058
Hispanic judge, black offender	0.006	0.079	0.006	0.075
Hispanic judge, Hispanic offender	0.001	0.033	0.001	0.037
Hispanic judge, other offender	0.0002	0.014	0.0002	0.013
Number of convictions by judge	394.28	307.26	382.30	310.38
Years on bench	10.56	7.12	10.71	7.31
Years on bench squared	162.14	207.83	168.09	216.89
<b>Number of observations</b>	<b>53,784</b>		<b>27,718</b>	

Source: Center for Data Analysis calculations based on data from the Pennsylvania Commission on Sentencing, "Pennsylvania Sentencing Data: 1998" and judge characteristic data collected by the *York Daily Record*.

first model, but includes the addition of the judge-related variables. In the last model, the interactions of the gender and race/ethnicity of the judges and offenders are substituted for the offender and judge gender and race/ethnicity variables. These interactions will help identify whether minority judges sentence minority offenders differently than white judges.

**Dependent Variable.** The dependent variable is the *minimum* number of months that the offender was sentenced to jail or prison for felonies and misdemeanors. A non-incarceration sentence, such as probation, was coded as a zero.

**Legal Factors.** The legal factors included in the analysis capture differences in criminal history, current offense severity, disposition type, and number of convictions. The guidelines provide a formal structure to guide courts in the administration of minimum sentences but allow the courts to adjust sentences according to aggravating and mitigating circumstances. The Pennsylvania sentencing guidelines are unique in that they prescribe minimum sentencing ranges, in contrast to the guidelines of other states that provide instructions for minimum and maximum sentences. In addition, the Pennsylvania guidelines offer judges more latitude in crafting sentences on a case-by-case basis, so the data used in this study are particularly useful to estimating judicial discretion.

Modeling the effect of sentences prescribed by guidelines needs to reflect the relationship between offense severity, offender history, and sentencing outcomes.<sup>81</sup> The presumptive sentence is determined by the severity of the offense and the offender's criminal record. The offender's offense is converted into an offense gravity score (OGS), which ranges from 1 to 14. The offender's criminal history is represented by the prior record score (PRS), which ranges from 0 to 5. The OGS and PRS values plot cells in the sentencing matrix that recommend minimum sentence ranges.<sup>82</sup>

Depending on the circumstances of the case and the interaction between the offense gravity score and the prior record score, the sentencing guidelines provide three ranges for the recommended minimum sentence:

*First*, the standard minimum range is used for normal circumstances.

*Second*, the aggravated minimum range is used for when the court determines that there are aggravating circumstances present that warrant a more severe sentence.

*Third*, the mitigated minimum range is applied when the court establishes that there are mitigating circumstances that necessitate a reduced sentence. The midpoint of the standard minimum range is used to capture the effect of the sentencing guidelines.

In addition to the presumptive sentence, this analysis controls for the offense type and the number of prior convictions per offender. Offenses were classified as property crimes, violent crimes, drug crimes, and miscellaneous crimes. The inclusion of the four broad offense variables is an attempt to measure the qualitative differences between offenses in the judges' minds.<sup>83</sup> The dummy variables for offense type are not factors in determining the presumptive sentence under the guidelines. By including the four offense type variables in the model, this analysis attempts to control for the qualitative differences between these crimes. For example, offenders convicted of violent offenses are expected to receive longer minimum incarceration sentences.

The analysis also controls for each offender's disposition type using a set of dummy variables for bench trials, negotiated guilty pleas, non-negotiated guilty pleas, *nolo contendere*, and other disposition types, with jury trials as the default.

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81. Rodney L. Engen and Randy R. Gainey, "Modeling the Effects of Legally Relevant and Extralegal Factors Under Sentencing Guidelines: The Rules Have Changed," *Criminology*, Vol. 38, No. 4 (2000), pp. 1207–1229.

82. See Pennsylvania Commission on Sentencing, "Basic Sentencing Matrix," 5th ed., June 13, 1997, at [pcs.la.psu.edu/1997MATRIX.pdf](http://pcs.la.psu.edu/1997MATRIX.pdf) (December 10, 2002).

83. These variables are broad classifications of particular crimes that are used for the OGS. For example, the following crimes all receive the same OGS score of 8: (1) aggravated assault with a deadly weapon that caused bodily injury; (2) theft of goods valued over \$100,000; and (3) possession with the intent to distribute 10 grams to 50 grams of cocaine. Holding the PRS constant, offenders convicted of these three crimes will receive the same recommended minimum sentence range.

**Extralegal Factors.** Some studies of sentencing have found that extralegal factors, such as the offender's race and ethnicity, influence sentencing outcomes. The analysis controls for the effect of the offender's gender through the use of a variable that identifies when the offender is female with male offenders as the comparison. A set of dummy variables identifies whether the offender is black, Hispanic, Asian, American Indian, or some other race or ethnicity, with white offenders as the default. The age of the offender at the time of sentencing and the age at sentencing squared are included as control variables. Including the age of the offender and its square captures the curvilinear effect of age on sentencing.

**Judge Characteristics.** This analysis controls for impact of the judge's gender, race, and ethnicity, the number of years served on the bench, and the number of years served on the bench squared. As with the offender race and gender variables, the defaults for the race and gender of the judges are white judges and male judges, respectively. The inclusion of the variables reflecting the amount of time spent on the bench captures the curvilinear relationship with sentencing. The number of convictions per sentencing judge during 1998 under the 1997 sentencing guidelines is used as a proxy for the judges' caseloads. The use of the judge variables marks an important contribution to the literature on sentencing determinants in Pennsylvania.

**Judge and Offender Interactions.** In Model 3, the interactions of the gender and race/ethnicity of the judges and offenders are substituted for the variables that identify the gender, race, and ethnicity of the judges. The interactions were done to determine whether sentence length differed when the gender and race/ethnicity of the judges and offenders were different. For these interactions, the defaults are male offenders sentenced by male judges and white offenders sentenced by white judges.

**Jurisdiction Characteristics.** To control for differences in sentencing practices among Pennsylvania courts, county-level fixed-effects are used in each model. These county fixed-effects can control

for unobserved factors in the courts, such as prosecutorial tendencies and differences between small and large courts, that may influence sentencing outcomes. For example, courts in some counties may favor harsher or more lenient sentences than courts in other counties. The use of fixed-effects allows for this study to control for these unobserved differences. A series of dummy variables for 66 of the 67 counties were entered into each of the models.

## PENNSYLVANIA SENTENCING GUIDELINES

To control for the degree of judicial discretion, the approach used needs to model the sentencing guidelines properly.<sup>84</sup> According to the Pennsylvania Commission on Sentencing, "[t]he guidelines are designed to structure the discretion of the sentencing court without denying the court the power to craft sentences to the particular needs of the defendant and the interests of justice." The sentencing guidelines recommend minimum sentences based on the severity of the current offense and the criminal history.

While the guidelines provide a framework for the sentencing court, judges do have the discretion to deliver sentences that are outside the recommended minimum range. If the sentencing court determines that the guideline recommendations are inappropriate based on the details of a particular case, the court may give a longer sentence (departure above) or a shorter sentence (departure below) as long as the court supplies a rationale for such a sentence and reports that rationale to the PCS. If a judge deviates too far from the guidelines, the prosecution and the defendant have the legal right to appeal the sentence.<sup>85</sup>

If the effects of the sentencing guidelines are not properly specified, the estimated relationship may be biased, and erroneous conclusions may be reached.<sup>86</sup> As previously mentioned, this analysis uses the midpoint of the recommended minimum sentence range to control for the effect of the interaction between criminal history and offense severity on prescribed sentences. While most studies of

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84. Bushway and Piehl, "Judging Judicial Discretion."

85. Pennsylvania Commission on Sentencing, "Sentencing Guidelines and Information: What Are Sentencing Guidelines?" at [pcs.la.psu.edu/WhatareGuidelines.htm](http://pcs.la.psu.edu/WhatareGuidelines.htm) (December 10, 2002).

86. Engen and Gainey, "Modeling the Effects of Legally Relevant and Extralegal Factors Under Sentencing Guidelines."

Pennsylvania sentences have used the offense gravity and prior record scores as control variables,<sup>87</sup> the sentencing guidelines' recommended minimum sentence—as represented by the midpoint between the bottom and top standard sentence—is used in this analysis.

According to Rodney L. Engen, Associate Professor of Sociology at North Carolina State University, and Randy R. Gainey, Associate Professor of Sociology and Criminal Justice at Old Dominion University, controlling for current offense severity and criminal history incorrectly assumes that a linear relationship exists between these variables and sentence length. Instead, controlling for the recommended sentence allows for the model to reflect the non-linear increases in the severity of recommended sentences as the offense gravity and prior record scores increase.

The impact of controlling for the presumptive sentence instead of offense severity and criminal history is noticeable in an analysis of Washington State sentencing data. When Professors Engen and Gainey included offense severity and criminal history, males received sentences that were 4.3 months longer than females, while blacks and Hispanics received sentences that were, respectively, 1.9 months and 3.8 months longer than whites. However, when the presumptive sentence replaced offense severity and criminal history, sentences for males were only 1.2 months longer than sentences for women, sentences for blacks were no longer statistically different from sentences for whites, and the disparity for Hispanics was reduced to 1.3 additional months. Professors Engen and Gainey conclude that using offense severity and criminal

history, instead of the presumptive sentence, overestimates the effect of gender, race, and ethnicity on sentence length.<sup>88</sup>

Jeffery T. Ulmer, Associate Professor of Sociology and Crime, Law, and Justice at Penn State University, urges caution in using the presumptive sentence approach. Professor Ulmer's analysis of sentencing in Pennsylvania using a model with presumptive sentences had a slightly lower overall explanatory power than his model that used offense severity and criminal history. Instead of making a linear assumption about the effect of offense severity and criminal history on sentencing outcomes, he recommends a quadratic model where offense severity and criminal history are included along with their squared values. While this quadratic approach had a higher overall explanatory power, however, it is potentially plagued by multicollinearity.<sup>89</sup>

After testing Professor Ulmer's quadratic equation against the Pennsylvania sentencing guideline matrix, Professors Engen and Gainey conclude that the approach does not adequately control for the formally recommended sentences in the guidelines.<sup>90</sup> They argue that the most direct way to control for the formal structure of sentencing guidelines is to control for the presumptive sentence.<sup>91</sup> They further add that analyses that control for the presumptive sentence are "statistically sound, conceptually clean, and are more consistent with current theorizing about the process under guidelines."<sup>92</sup> While the debate over appropriately modeling for guidelines will surely continue, this analysis uses the presumptive sentence to control for the effect of the guidelines.

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87. Gorton and Boies, "Sentencing Guidelines and Racial Disparity Across Time"; Kramer and Steffensmeier, "Race and Imprisonment Decisions"; Steffensmeier *et al.*, "The Interaction of Race, Gender, and Age in Criminal Sentencing"; Steffensmeier and Britt, "Judges' Race and Judicial Decision Making"; Steffensmeier and Demuth, "Ethnicity and Judges' Sentencing Decisions"; Ulmer, *Social Worlds of Sentencing*; Ulmer, "The Rules Have Changed"; and Ulmer and Kramer, "Court Communities Under Sentencing Guidelines."

88. Engen and Gainey, "Modeling the Effects of Legally Relevant and Extralegal Factors Under Sentencing Guidelines," esp. p. 1218.

89. Ulmer, "The Rules Have Changed."

90. Rodney L. Engen and Randy R. Gainey, "Conceptualizing Legally Relevant Factors Under Guidelines: A Reply to Ulmer," *Criminology*, Vol. 38, No. 4 (2000).

91. *Ibid.*, 1245–1252.

92. Engen and Gainey, "Conceptualizing Legally Relevant Factors Under Guidelines," p. 1251.

## MODELING JUDICIAL DISCRETION

Based on the expectation that Pennsylvania judicial actors representing the state, especially judges, are expected to follow the guidelines, the decision process is assumed to occur in one stage. Thus, the Tobit model is used to estimate judicial discretion. Using the Tobit model avoids selection bias issues inherent in analyzing incarceration lengths.<sup>93</sup> Some have proposed that sentencing occurs in two stages.<sup>94</sup> In the first stage, often referred to as the “in/out” decision, the judge decides whether or not to sentence the individual to incarceration. The second stage is the decision on the length of incarceration.

In Pennsylvania, the presence of sentencing guidelines suggests that the decision process occurs in one stage rather than two stages. Based on similar sentencing guideline circumstances, Shawn D. Bushway, Assistant Professor at the University of Maryland, and Anne Morrison Piehl, Associate Professor at Harvard University, assumed a one-stage decision process for modeling judicial discretion in Maryland.<sup>95</sup>

The structure of the Pennsylvania sentencing matrix itself supports the assumption that the decision is made in one stage, not two. Most of the matrix cells, which provide judges with the recommended minimum sentencing range, recommend incarceration sentences only.<sup>96</sup> Technically, Pennsylvania judges can impose non-incarceration sentences when the guidelines clearly recommend otherwise, but the legal right to appeal sentences that deviate too far from the presumptive sentence provides an important check on judicial discretion. Thus, the sentencing process is considered to

occur in a single stage. However, the Pennsylvania Supreme Court has set a high standard for overturning sentencing decisions.<sup>97</sup>

The severity of incarceration sentences can be analyzed by viewing non-incarceration sentences as unobserved, censored outcomes. While modeling sentencing decisions as a one-stage process, the analysis should still account for the censored outcomes (non-incarceration sentences).<sup>98</sup> Due to the presence of left-censored data, the Tobit model was chosen over ordinary least squares (OLS) regression for the purpose of producing unbiased and efficient estimates.<sup>99</sup> In the Tobit regression, censoring occurs when the values of the dependent variable are not observed because the values are either above or below a certain threshold. In the case of this analysis, all of the offenders sentenced to a punishment of less than incarceration in jail or prison are left-censored at a cutoff value of zero.

The structure of the Tobit model in this analysis is expressed as:<sup>100</sup>

$$[1] \quad y_i^* = x_i\beta + \varepsilon_i$$

where  $\varepsilon_i \sim N(0, \sigma^2)$ ,  $x$  has observed values for all cases, and  $y^*$  is a latent variable that is observed for values greater than 0 and is censored for values less than or equal to 0. In other words, there is a latent variable  $y^*$  that is observed only when its value is greater than a certain threshold. In this analysis, the variable can be formally expressed as:

$$[2] \quad y_i = \begin{cases} 0 & \text{if } y_i^* \leq 0 \\ y_i^* & \text{if } y_i^* > 0 \end{cases}$$

93. Bushway and Piehl, “Judging Judicial Discretion.”

94. Gorton and Boies, “Sentencing Guidelines and Racial Disparity Across Time”; Kramer and Steffensmeier, “Race and Imprisonment Decisions”; Steffensmeier *et al.*, “The Interaction of Race, Gender, and Age in Criminal Sentencing”; Steffensmeier and Britt, “Judges’ Race and Judicial Decision Making”; Steffensmeier and Demuth, “Ethnicity and Judges’ Sentencing Decisions”; Ulmer, *Social Worlds of Sentencing*; Ulmer, “The Rules Have Changed”; and Ulmer and Kramer, “Court Communities Under Sentencing Guidelines.”

95. Bushway and Piehl, “Judging Judicial Discretion.”

96. For an example of a sentencing matrix, see Pennsylvania Commission on Sentencing, “Basic Sentencing Matrix.”

97. *Commonwealth v. Devers*, 519 Pa. 88, 546 A2d 12 (1998).

98. Bushway and Piehl, “Judging Judicial Discretion.”

99. James Tobin, “Estimation of Relationships for Limited Dependent Variables,” *Econometrica*, Vol. 26, No. 1 (1958), pp. 24–36, and Long, *Regression Models for Categorical and Limited Dependent Variables*.

100. Long, *Regression Models for Categorical and Limited Dependent Variables*.



Combining Equation 1 and Equation 2 yields the following equation:

$$[3] \ y_i = \begin{cases} y_i^* = x_i\beta + \varepsilon_i & \text{if } y_i^* > 0 \\ 0 & \text{if } y_i^* \leq 0 \end{cases}$$

Basically, Equation 3 is the product of one probit regression and one linear regression.

## FINDINGS

The multivariate analyses that follow examine the effects of legal and extralegal factors on sentencing outcomes. Three multivariate models are presented. The first model contains the variables commonly used to specify the relationship between legal and extralegal factors relating to the offender. The second model adds the judge characteristics to the analysis. This addition yields important information about the influence of judge characteristics in judicial decision making. The third model interacts the race/ethnicity and gender variables for offenders and judges. The interactions assist in determining the degree to which sentencing outcomes vary by the relationship between offenders and judges.

For all of the models, robust standard errors are used to test for statistical significance. While the presumptive sentence and offense type were used to control for the severity of the offenses, the findings in all the models are affected by the fact that the crimes for which minority offenders were convicted were more serious than those for which white offenders were convicted. Further, minority judges, on average, presided over convictions that were more serious, as measured by the presumptive sentence, than convictions overseen by white judges.

### Model 1: Legal and Extralegal Factors

Table 3 presents the findings for the first two models. The findings for the legal factors in Model 1 are presented first. The presumptive sentence, as

measured by the midpoint, does have an impact on sentence length. The coefficient for the midpoint for the presumptive sentence is statistically significant and estimated at 0.93 months, which means that for each additional month recommended by the guidelines, offenders sentenced to jail or prison received an additional 0.93 months of incarceration for their minimum sentence.<sup>101</sup> This finding suggests that Pennsylvania court actors are using a slightly more lenient interpretation of the guidelines, *ceteris paribus*, when the presumptive sentence is measured as the midpoint of the minimum recommended range.

For the number of convictions, the coefficient is 0.17 months and statistically significant. For each additional conviction, offenders can expect to receive about 0.17 additional months of incarceration sentence. With miscellaneous offenses as the reference, the coefficients for the offense dummy variables were all statistically significant. Those convicted of property offenses could expect to receive 2.41 less months of incarceration, while those convicted of violent offenses received an additional 1.57 months. Offenders convicted of drug crimes received a sentence reduction of almost 2.48 months.

In addition to the legal factors, the extralegal factors influenced sentencing outcomes. Compared to jury trials, offenders who had bench trials received 1.37 additional months of incarceration. Offenders who entered into negotiated guilty pleas received sentence reductions of 1.41 months, while non-negotiated guilty pleas appear to have no effect. Offenders who entered *nolo contendere* pleas saw their sentences reduced by 2.70 months, while those that entered into other plea arrangements experienced a sentence increase of 8.20 months of incarceration.

Statistically significant differences in sentence lengths were present for the demographic characteristics of the offenders. Female offenders received a reduction of 3.01 months compared to

101. In an alternative approach, Bushway and Piehl, "Judging Judicial Discretion," constrain the coefficient of the presumptive sentence to 1. Fixing the presumptive sentence coefficient to 1 means that only the other explanatory variables are permitted to explain judicial discretion. Separate analyses of the models presented in this paper were estimated with the coefficient of the presumptive sentence set to 1. Generally, constraining this coefficient did not substantially change the coefficients for the other explanatory variables in all three of the models, because when the coefficient is allowed to vary for the presumptive sentence, it is nearly equal to 1. However, when the constraint was used, the coefficients for violent offenses in all the models changed signs but became statistically insignificant. In Models 1 and 2, the coefficients for black offenders became statistically insignificant.

		Tobit Model 1		Tobit Model 2	
Variable	Coefficient (Months)	Robust Standard Error		Coefficient (Months)	Robust Standard Error
Presumptive sentence (months)	0.933	(0.004) ***		0.933	(0.004) ***
Number of convictions	0.173	(0.012) ***		0.172	(0.012) ***
Property offense	-2.411	(0.128) ***		-2.382	(0.128) ***
Violent offense	1.565	(0.225) ***		1.547	(0.225) ***
Drug offense	-2.480	(0.143) ***		-2.466	(0.143) ***
Female offender	-3.005	(0.137) ***		-3.006	(0.137) ***
Black offender	0.286	(0.123) *		0.262	(0.123) *
Hispanic offender	1.708	(0.225) ***		1.701	(0.225) ***
Other race/ethnicity offender	0.679	(0.600)		0.670	(0.600)
Age of offender	0.145	(0.024) ***		0.144	(0.027) ***
Age of offender squared	-0.002	(0.0003) ***		-0.002	(0.0003) ***
Bench trial	1.368	(0.351) ***		1.364	(0.351) ***
Negotiated guilty plea	-1.406	(0.157) ***		-1.412	(0.158) ***
Non-negotiated guilty plea	-0.026	(0.182)		-0.009	(0.184)
Nolo contendere	-2.711	(0.522) ***		-2.698	(0.522) ***
Other disposition	8.199	(0.977) ***		8.001	(0.978) ***
Female judge	-			-0.704	(0.153) ***
Black judge	-			1.103	(0.294) ***
Hispanic judge	-			-1.430	(0.486) **
Number of convictions by judge	-			0.000	(0.0002)
Years on bench	-			-0.020	(0.023)
Years on bench squared	-			0.001	(0.0008)
Constant	-5.180	(0.881) ***		-5.332	(0.898) ***
Standard error	9.6100	(0.034)		9.603	(0.034)
Log likelihood	<b>-115,726.38</b>			<b>-115,693.96</b>	
Left censored observations	<b>26,066</b>			<b>26,066</b>	
Uncensored observations	<b>27,718</b>			<b>27,718</b>	
<p>* p &lt; 0.05,                  ** p &lt; 0.01,                  *** p &lt; 0.001</p>					
<p>Source: Center for Data Analysis calculations based on data from the Pennsylvania Commission on Sentencing, "Pennsylvania Sentencing Data: 1998" and judge characteristic data collected by the <i>York Daily Record</i>.</p>					

their male counterparts. This may reflect, as some have proposed,<sup>102</sup> a paternalistic attitude toward women by judicial actors. Except for offenders of Asian, American Indian, and Pacific Islander descendants, disparities in sentencing were found for minorities. Compared to white offenders, black offenders received a slight increase in incarceration sentences. Blacks could expect to receive an increase in their incarceration sentence of 0.29 months, while Hispanics received an additional 1.71 months.

The age of the offender and its square also had statistically significant effects on incarceration sentences. For each additional year, the offender's age had a curvilinear effect on incarceration length. An 18-year-old offender could expect to receive almost 1.99 additional months of incarceration. The effect of age increased in incremental steps up to age 38, at 2.76 additional months, and then decreased thereafter until reaching approximately zero at age 76.

### **Model 2: The Inclusion of Judge Characteristics**

Overall, the addition of the judge characteristic variables into the analysis did not substantially change the findings of the coefficients in the previous model. All of the previous variables remain statistically significant at the same levels as in Model 1. Although there were slight changes in the coefficients, the legal factors remained essentially the same.

The effect of the presumptive sentence and number of convictions remained relatively the same. The coefficient for the presumptive sentence was 0.93, and the coefficient for number of convictions was 0.17 months. However, the coefficients for the offense dummy variables changed slightly. The estimated reduction in length of incarceration for property offenders was 2.38 months. For violent offenses, the coefficient was 1.55 months. In terms of months, the differences in the coefficients from Models 1 and 2 are inconsequential.

In addition to the legal factors, the extralegal factors remained influential. Compared to jury trials, offenders whose cases were handled through bench trials received an additional 1.36 months of

incarceration. Offenders who entered into negotiated guilty and *nolo contendere* pleas still received shorter incarceration sentences than those whose cases went to trial. The coefficient for non-negotiated guilty pleas remained statistically insignificant. Those who resolved their cases through other means could still expect to be incarcerated almost 8.0 additional months.

While the magnitude and direction of the coefficients for the extralegal factors did not substantially change, the offender's race and ethnicity coefficients were slightly affected. Female offenders received a reduction of 3.01 months compared to their male counterparts. Blacks could expect to receive an increase in their incarceration sentence of 0.26 months, while Hispanics received an additional 1.70 months. However, the magnitude of the change in these coefficients from the coefficients in Model 1 is meager.

As for age and its squared term, the curvilinear results from Model 2 are approximately the same as in Model 1. The gender and race characteristics of the judges presiding over the convictions influenced sentences. All of these coefficients were statistically significant. Offenders sentenced under female judges received 0.70 months less incarceration than offenders sentenced under male judges. Sentences involving black judges were 1.10 months longer than sentences involving white judges. Sentences imposed by Hispanic judges were 1.43 months shorter than sentences imposed by white judges; however, this finding should be interpreted with caution due to the very small number of Hispanic judges in the data.

The coefficient for the number of convictions involving the sentencing judge during the year was not statistically different from zero. The coefficients for the number of years that the presiding judge had been on the bench and its square were also statistically insignificant. While the inclusion of the judge variables did change the sizes of the coefficients for the other variables, the actual changes in terms of months were very small.

### **Model 3: Interacting Judge and Offender Characteristics**

To further test the influence of judge characteristics on sentencing, Model 3 includes interactions

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102.Gruhl *et al.*, "Women as Policymakers."

between the judge's characteristics and offender's characteristics. The addition of the judge-offender characteristic variables into the analysis did not substantially change the findings for the legal factors. Table 4 presents the Tobit regression findings for the third model. The coefficient for the presumptive sentence remained constant at 0.93 months per month recommended. The coefficients for number of convictions, offense types, and disposition types remained largely unchanged.

For the judge-offender interactions for gender, the default variable indicates sentences of male offenders by male judges. For the race interactions, the default variable identifies sentences by white judges of white offenders.

While the magnitude and direction of the coefficients for the case disposition type and the offender age variables did not substantially change, analysis of the judge-offender interactions yielded interesting results on sentence length. Sentences involving male judges and female offenders were 3.0 months shorter than sentences where both the judge and offender were male. Male offenders whose cases were overseen by female judges could expect to receive a sentence reduction of 0.72 months, while female offenders could expect a reduction of 3.74 months.

Compared to sentences involving white judges and white offenders, black offenders were not sentenced differently by white judges. Hispanic offenders received an additional 1.59 months when white judges presided over their cases. Sentences involving white judges and offenders of other races or ethnicities were not statistically different from sentences involving both white judges and white offenders.

A different sentencing pattern emerged for black judges. The incarceration sentences of white offenders when the judge was black were not statistically different from zero. However, minority offenders did receive different sentences when black judges oversaw their cases. Black and Hispanic offenders incarcerated under black judges could expect 1.70 and 3.35 additional months,

respectively. An even larger disparity of 10.25 additional months was found for offenders of other races and ethnicities sentenced under black judges. However, the findings for sentences of Hispanic and other offenders by black judges should be interpreted with circumspection due to the small number of these cases in the data.

White offenders sentenced by Hispanic judges could expect a reduction of 2.14 months, while black offenders experienced a reduction of 1.29 months. Sentences of Hispanic offenders involving Hispanic judges were 3.09 months longer. However, the coefficient for Hispanic judge and other offender interaction was statistically insignificant. As with the Hispanic judge findings from Model 2, caution is urged in interpreting these findings because of the small number of Hispanic judges in the dataset.

As for the number of convictions involving the judges and their time served on the bench and its square, the coefficients were statistically insignificant.

## DISCUSSION

Dissimilarities based on extralegal factors were found for incarceration length. As all of the model specifications imply, female offenders received shorter sentences than male offenders. This result may reflect the interaction of judicial paternalism,<sup>103</sup> an unwillingness to incarcerate women with dependent children,<sup>104</sup> and the perception that women are less of a threat to the community.<sup>105</sup>

The gender of the judge influenced sentencing outcomes. Decisions in cases overseen by female judges resulted in shorter incarceration terms. When a female judge oversaw the case, the incarceration sentence was shorter than if a male judge attended to the case. When judge-offender interactions were introduced into the model, patterns in sentencing disparities were more easily distinguished. Regardless of whether the judge was male or female, female offenders were the recipients of shorter sentences than males. The most lenient

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103.Daly, "Discrimination in the Criminal Courts."

104.Steffensmeier, "Assessing the Impact of the Women's Movement on Sex-Based Differences in the Handling of Adult Criminal Defendants."

105.Albonetti, "An Integration of Theories to Explain Judicial Discretion."

Table 4		CDA 04-02	
<b>Effect of Judge-Offender Interactions on Sentence Length with County Fixed Effects</b>			
<b>Tobit Model 3</b>			
Variable	Coefficient (months)	Robust Standard Error	
Presumptive sentence	0.933	(0.004)	***
Number of convictions	0.171	(0.012)	***
Property offense	-2.367	(0.128)	***
Violent offense	1.549	(0.225)	***
Drug offense	-2.466	(0.143)	***
Age of offender	0.144	(0.024)	***
Age of offender squared	-0.002	(0.0003)	***
Bench trial	1.336	(0.351)	***
Negotiated guilty plea	-1.421	(0.158)	***
Non-negotiated guilty plea	-0.012	(0.184)	
Nolo contendere	-2.777	(0.522)	***
Other disposition	7.991	(0.977)	***
Male judge, female offender	-2.998	(0.146)	***
Female judge, male offender	-0.725	(0.163)	***
Female judge, female offender	-3.743	(0.368)	***
White judge, black offender	0.219	(0.126)	
White judge, Hispanic offender	1.588	(0.232)	***
White judge, other offender	-0.412	(0.645)	
Black judge, white offender	-0.288	(0.523)	
Black judge, black offender	1.701	(0.361)	***
Black judge, Hispanic offender	3.354	(0.932)	***
Black judge, other offender	10.251	(1.918)	***
Hispanic judge, white offender	-2.136	(0.818)	**
Hispanic judge, black offender	-1.291	(0.647)	*
Hispanic judge, Hispanic offender	3.090	(1.364)	*
Hispanic judge, other offender	3.552	(3.339)	
Number of convictions by judge	0.000	(0.0002)	
Years on bench	-0.018	(0.023)	
Years on bench squared	0.001	(0.0008)	
Constant	-5.301	(0.898)	***
Standard error	9.597	(0.034)	
Log likelihood	-115,675.29		
Left censored observations	26,066		
Uncensored observations	27,718		

\* p < 0.05,  
 \*\* p < 0.01,  
 \*\*\* p < 0.001

Source: Center for Data Analysis calculations based on data from the Pennsylvania Commission on Sentencing, "Pennsylvania Sentencing Data: 1998" and judge characteristic data collected by the *York Daily Record*.

sentences involved female judges presiding over the cases of female offenders.

The findings for the race and ethnicity of the offenders were less clear. Black offenders incurred slightly longer sentences compared to their white counterparts. However, the disparity for Hispanic offenders was much more noticeable, while the finding for offenders of other races or ethnicities was statistically insignificant. If black offenders were stereotyped as being more dangerous to the community, one would have expected to find the coefficient for black offenders to be much larger. While this analysis found that black offenders received slightly longer sentences, a similar study of Pennsylvania judges did not find that black offenders received longer sentences.<sup>106</sup>

The findings of the race and ethnicity interactions shed light on sentencing patterns by the race of the judge. Compared to the sentences of white offenders, white judges were not involved in the differing allocation of incarceration sentences for black offenders. However, Hispanic offenders could expect to receive longer sentences than their white counterparts, while no difference was found for offenders of other races and ethnicities.

Increasing minority judgeships has been viewed as a way to reduce disparities in the sentencing of minority offenders.<sup>107</sup> However, black judges in this study were involved in cases where the incarceration lengths were harsher than sentences administered by white judges. Some have offered surprise that black judges and white judges would treat offenders differently, because the socialization process of judges is anticipated to produce conformity.<sup>108</sup> Concern over the higher crime rates of

black communities possibly explains the harsher sentences under black judges. When county crime data for 1998 were analyzed by the race of the judge, black judges presided over counties where the mean uniform crime reports (UCR) Part 1 crime rate was twice as high as the mean for counties overseen by white judges.<sup>109</sup> Working in communities with higher crime rates may influence black judges to administer sentences that are harsher than sentences imposed by judges that work in communities with lower crime rates.<sup>110</sup>

Although the sentences of white offenders involving black judges were not statistically different from zero, black offenders could expect to receive longer sentences when black judges presided over their cases. If disparities in sentencing were driven by discrimination against minorities by white judicial actors, one would expect black judges to balance sentences by decreasing incarceration sentences for black offenders. The harsher sentencing by black judges may be explained by survey data from the National Crime Victimization Survey, which indicate that blacks generally experience higher victimization rates than others.<sup>111</sup> Black judges may be more concerned for the plight of minority victims than for the rights of minority criminals.<sup>112</sup>

While the findings from this study do not necessarily imply that racial discrimination is behind disparities in sentencing outcomes, omitted variables may explain the differences. Professors John H. Kramer and Darrell Steffensmeier at Pennsylvania State University propose that confounding factors that are not quantified in the analyses of sentencing in Pennsylvania may explain the dis-

106.Steffensmeier and Britt, "Judges' Race and Judicial Decision Making."

107.Goldman, "Should There Be Affirmative Action for the Judiciary?" and Welch *et al.*, "Do Black Judges Make a Difference?"

108.Welch *et al.*, "Do Black Judges Make a Difference?"

109.The mean Part 1 county crime rate was 6,379 incidents per 100,000 residents for black judges, while the mean was 3,137 incidents per 100,000 for white judges. To calculate the means, the data were weighted by the number of convictions per judge during 1998. Calculations were based on data from U.S. Department of Justice, Federal Bureau of Investigation, "Uniform Crime Reporting Program Data [United States]: County-Level Detailed Arrest and Offense Data, 1998," computer file, 2nd ICPSR ed. (Ann Arbor, Mich.: Inter-University Consortium for Political and Social Research [producer and distributor], 2001), at [www.icpsr.umich.edu/index.html](http://www.icpsr.umich.edu/index.html).

110.County crime rates were excluded from the analysis because of potential modeling problems due to suspected endogeneity between crime rates and actual sentences.

111.Callie Marie Rennison and Michael R. Rand, *Criminal Victimization, 2002* (Washington, D.C.: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, 2003).

112.Spohn, "The Sentencing Decisions of Black and White Judges."

parities. These confounding factors include qualitative circumstances of the offenses (e.g., prior conviction occurred several years ago); features of the offender's criminal history not measured by prior criminal record scores (e.g., use of a weapon in commission of the offense not included in the official charge); history of unemployment; perceived rehabilitation potential; different plea-bargaining tactics; and disinclination to send white offenders to correctional institutions disproportionately populated by blacks.<sup>113</sup> Further, the omission of the type of legal representation obtained by the offenders, the offenders' culpability and attitude before the court, and their motivation for committing their crimes in the dataset may bias the findings.

Future studies of sentencing in Pennsylvania should include information related to prosecutors and defense counsels. Modeling the effect of the interaction between prosecutors, judges, defense counsels, and offenders on sentencing outcomes may provide researchers with important insight on how sentencing disparities emerge.

## CONCLUSION

While the previous literature on sentencing in Pennsylvania has generally focused on the legal

and extralegal factors relating to offenders, this study's inclusion of information pertaining to judges adds to existing knowledge about the determinants of sentencing. Using a Tobit model and controlling for such factors as the presumptive sentence showed that black judges were involved in the application of longer incarceration sentences of offenders than white judges.

Further, the judge-offender race interactions found different sentencing patterns. While disparities in sentencing of black offenders sentenced by white judges were not found, the sentences of black offenders by black judges were longer than the sentences of white offenders by white judges.

The harsher sentencing by black judges may be a consequence of the higher victimization rates in the black community. Black judges may simply be more sensitive to the plight of the victims. Nevertheless, generalizing these sentencing patterns to judges in other states should be done with caution because the Pennsylvania guidelines allow judges more discretion in crafting sentences than is allowed by the guidelines in most other states.

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113. Kramer and Steffensmeier, "Race and Imprisonment Decisions."

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