

# **EXTRA-LEGAL ATTRIBUTES AND CRIMINAL SENTENCING: AN ASSESSMENT OF A SOCIOLOGICAL VIEWPOINT**

**JOHN HAGAN** *University of Alberta*

*AUTHOR'S NOTE: I wish to express my appreciation to Gwynn Nettler, Andrew Harrell, A. R. Gillis, and William Avison for their comments and suggestions in response to earlier drafts of this paper.*

## **Introduction**

Nearly half a century after Thorsten Sellin (1928) first introduced the topic for research, the issue of discrimination in judicial sentencing is still very much with us. Thus, Richard Quinney (1970: 142), among the more provocative critics of our system of criminal justice, observes that

Obviously judicial decisions are not made uniformly. Decisions are made according to a host of extra-legal factors, including the age of the offender, his race, and social class.

Perhaps the most obvious example of judicial discretion occurs in the handling of cases of persons from minority groups. Negroes, in comparison to whites, are convicted with lesser evidence and sentenced to more severe punishments.

A more detailed version of this argument is presented in the work of Chambliss and Seidman (1971). A propositional theory of the legal process is formulated which focuses on the bureaucratic character of criminal justice and the use of discretion within this context. The key postulate in this theory assumes that legal decision-making will be motivated by the desire to maximize institutional benefits, while minimizing organizational strains. It is also assumed that political power, in its close association with social class position, is the basic determinant of organizational rewards and constraints. Two testable deductions follow (Chambliss and Seidman, 1971: 475):

- (1) Where laws are so stated that people of all classes are equally likely to violate them, the lower the social position of the offender, the greater is the likelihood that sanctions will be imposed on him.
- (2) When sanctions are imposed, the most severe sanctions will be imposed on persons in the lowest social class.

Leaving no doubt as to the meaning of these propositions for judicial decision-making, Chambliss and Seidman (1971: 468) observe that, "[t]he judge's role in Anglo-American law in sentencing allows for at least as great discretion as do the roles of the prosecutor and the police . . . . The demands for efficient and orderly performance of the court take priority and create a propensity on the part of the courts to dispose of cases in ways that ensure the continued smooth functioning of the system. The consequence of such a policy is to systematically select certain categories of offenders (specifically the poor and the black) for the most severe treatment."

The discussion that follows reviews research relating to the charge of discrimination in sentencing. In the studies reviewed, answers are sought to the following questions:

- (i) *Are extra-legal attributes of the defendant a basis of differential sentencing?*
- (ii) *If so, how much differential sentencing occurs?*
- (iii) *In what particular settings, if any, does the differential sentencing occur?*

### **Studies of Judicial Sentencing**

Studies of judicial sentencing have tended to adopt a "sociological viewpoint," emphasizing the role of "extra-legal attributes" of the offender in the determination of judicial dispositions.<sup>1</sup> The independent variables given prominence by this approach include the race, sex, age, and socio-economic status of the defendant. Although such variables are *presumably* legally irrelevant to the imposition of sentence, sociologically-oriented studies have attempted to detect their extra-legal influence.

An alternative view of sentencing, which attends to factors emphasized in official-normative descriptions of the criminal justice system, may be referred to as the "legalistic" viewpoint. The variables of interest here include the defendant's prior conviction record and the nature and number of the charges presently brought against him.

Table 1 provides an overview of the manner in which the two viewpoints have been incorporated in twenty studies of judicial sentencing patterns.<sup>2</sup> All twenty treat one or more of the extra-legal offender characteristics as the independent variable(s); sixteen also hold constant at least one legal aspect of the defendant and his offense. There is, then, in sixteen studies, an acknowledgment of legal factors when testing sociological

TABLE 1: STUDIES RELATING EXTRA-LEGAL OFFENDER CHARACTERISTICS TO JUDICIAL SENTENCING

Study	Primary Sample	Salient Independent Variables	Salient Dependent Variables	Legal Variables Controlled	Test of Significance	Summary Measure of Association
SELLIN (1928)	18,239 cases in Detroit	race	sentence, conviction	offense	no	no
MARTIN (1934)	927 cases, Texas, 1930	race, occupation, sex, age	sentence	none	no	no
JOHNSON (1941)	122 death sentences, N. Carolina, 1933-39	race of offender & victim	appellate review	murder cases only	no	no
LEMERT <i>et al.</i> (1948)	914 cases, Los Angeles, 1930	race	sentence	offense, prior record	yes	no
GARFINKEL (1949)	821 offenders, homicide, No. Carolina	race of offender & victim	sentence, charge reduction	type of murder	no	no
JOHNSON (1957)	650 admissions, death row, North Carolina: 1930-40	race, education, occupation	execution	offense type	yes	no
GREEN (1961)	1,437 cases, Philadelphia	sex, age, race	sentence	offense, prior record, number of charges	yes	yes
BULLOCK (1961)	3,644 Texas prison inmates	race	sentence	offense type	yes	yes
JACOB (1962)	1,864 court cases, New Orleans	race	sentence	offense type	yes	no
BEDAU (1964)	235 capital cases, New Jersey, 1907-60	race, age, sex, SES	execution	none	yes	no
GREEN (1964)	118 robbery cases, 291 burglary cases, Philadelphia	race of offender & victim	sentence	type of offense, number of charges, prior record	no	no

TABLE 1: CONTINUED

Study	Primary Sample	Salient Independent Variables	Salient Dependent Variables	Legal Variables Controlled	Test of Significance	Summary Measure of Association
PARTINGTON (1965)	2,798 rape cases, Virginia	race	sentence & appellate review	type of rape	no	no
WOLFGANG <i>et al.</i> (1962)	439 death sentences, murder, Pennsylvania	age, race, occupation	appellate review	offense type	yes	no
WOLF (1965)	159 capital cases, New Jersey: 1937-61	age, race	sentence	offense type	yes	no
BEDAU (1965)	92 capital cases, Oregon, 1903-64	race, age, SES	execution	none	no	no
FORSLUND (1969)	3,882 arrests, Samford, Conn.	race, occupation, age	conviction, dismissal	none	yes	no
SOUTHERN REGIONAL COUNCIL (1969)	1,207 cases, 7 southern states	race of offender & victim	sentence	offense, prior record	no	no
NAGEL (1969)	2,930 larceny & assault cases	income, sex, race, age	sentence & conviction	offense, number of charges, prior record	no	yes
JUDSON <i>et al.</i> (1969)	238 First Degree Murder cases, sentenced by Jury	race, age, sex, SES	execution	prior record, characteristics of offense	yes	yes
WOLFGANG <i>et al.</i> (1973)	3,000 rape cases, from 11 southern states, 1945-65	race of offender & victim	execution	prior record, contemporaneous offense, and others	yes	no

hypotheses. However, the *degree* to which each incorporates controls for legal considerations is an important source of variation. The nature and degree of this variation, and its apparent consequences, will be a continuing concern in the remaining portions of this paper.

To understand the patterns of analysis commonly found in studies of judicial sentencing, it will be helpful to briefly consider the statistical techniques frequently used in this type of research. Of the twenty studies cited in Table 1, eleven incorporated tests of significance, four computed summary measures of association, and eight used neither form of analysis. The frequent reliance on tests of significance in these studies is troubling, considering the extensive debate regarding the merits of such tests (for example, see Selvin, 1957; Selvin and Stuart, 1966; Kish, 1959; Camilleri, 1962; and Labovitz, 1969). In the context of the current discussion, several difficulties associated with the use of significance tests need to be examined.

A basic problem in the use of significance tests is the frequency with which their results are misinterpreted. One source of this problem is a tendency to confuse the meanings of *substantive* and *statistical* significance. A relationship is considered statistically significant when we have established, subject to an accepted risk of error, that *there is* a relationship between two variables. Separate from the issue of whether or not a relationship exists is the question of *how strong* the relationship is. The strength of a relationship is indicated by a measure of association. Tests of significance are inappropriate for this purpose because they are markedly influenced by the size of the sample involved. For example, when the sample size is large, as is usually the case in studies of sentencing,<sup>3</sup> it is generally quite easy to establish statistical significance for even a very small relationship.<sup>4</sup> Within the context of large samples, then, one says very little by indicating that a relationship is "statistically significant" (Blalock, 1960: 225).

A second problem with tests of significance is the confusion of the meanings of *causal* and *statistical* significance. This confusion is particularly worrisome in the type of nonexperimental research used in sentencing studies. The error consists of a failure to acknowledge that a statistically significant relationship between an independent and dependent variable may often be alternatively explained (*i.e.*, shown spurious) by controlling for antecedent variables associated with the independent variable. The tendency to mix the meanings of causal and statis-

tical significance may thus misguidedly encourage a premature end to the data analysis process, and result in the assignment of false importance to spurious findings.<sup>5</sup> This failure to consider alternative explanatory hypotheses is recognizable in the inadequate manner in which many sociologically oriented studies of judicial sentencing have held constant the influence of legally relevant variables.

One final point should be made regarding the samples utilized in the studies cited in Table 1. Ten of these (Johnson, 1941; Garfinkel, 1949; Johnson, 1957; Bedau, 1964; Partington, 1965; Wolfgang *et al.*, 1962; Wolf, 1965; Bedau, 1965; Judson *et al.*, 1969; and Wolfgang and Riedel, 1973) deal primarily with capital cases, while the remaining ten (Sellin, 1928; Martin, 1934; Lemert and Rosberg, 1948; Green, 1961; Bullock, 1961; Jacob, 1962; Green, 1964; Forslund, 1969; Southern Regional Council, 1969; Nagel, 1969) focus largely on non-capital offenses. Because capital cases may more directly involve an expression of social mores, because they are more often tried before juries, and because sentencing decisions in these cases usually follow protracted litigation, it seems reasonable to expect different patterns of disposition in samples made up of capital cases.

Succeeding sections of this paper will examine our sample of twenty studies in terms of the points emphasized above. Thus, we shall, in turn, investigate the relationship between race, socio-economic status, age, and sex of the offender, and the nature of judicial dispositions. In each study, we shall consider not only the statistical significance of the relationship, but also the strength and form of the association, the extent to which controls are introduced for the influence of legally relevant factors, and the type of sample used in the investigation.

### **Race as the Independent Variable**

The most frequently considered offender characteristic in studies of sentencing is race. Sociologically-oriented studies have been concerned that the judicial process may be either excessively harsh, or, alternatively, unduly lenient, in the handling of minority group defendants. The assumption has been that relationships observed in either direction would reflect negatively on the attainment of equality before the law.

To evaluate the hypothesis that "race makes a difference," relevant data from seventeen studies (Tables 2, 3, 4, and 5) have been reanalyzed.<sup>6</sup> Because most of the studies did not

compute a measure of association, and because some of them also did not include a test of significance, it was necessary to perform additional computations on the data provided in the original tables. Where additional computations have been performed, the results are presented in brackets. In addition, there were instances where tables useful for comparative purposes were not included in the final presentation of a study's findings. It was often possible, however, to reconstruct many of these tables from the text.<sup>7</sup> Summary statistics derived from these reconstructed tables are shown in brackets. The test of significance used is chi-square ( $X^2$ ), and the measure of association presented is Goodman and Kruskal's tau-b ( $t_b$ ).<sup>8</sup> An advantage of the latter measure is its interpretation in terms of the increase in accuracy, beyond that provided by chance alone, that knowledge of an independent variable makes possible in the prediction of a dependent variable. In this discussion, we shall be concerned with the extent to which knowledge of the extra-legal attributes of the defendants improves our accuracy in predicting judicial dispositions.

An examination of Table 2, containing studies focusing on non-capital cases, reveals a number of interesting findings. Perhaps the most striking aspect of the table is the small magnitude of many of the relationships observed. Thus, the largest  $t_b$  indicated is .08 (Lemert and Rosberg, 1948), with the majority of the studies revealing relationships much lower in strength. It is particularly noteworthy that this is often the case regardless of the degree to which the findings are statistically significant. Thus, there are several statistically significant relationships in the table where  $t_b$  is smaller than .01. This indicates that knowledge of race increases the accuracy of the prediction of sentencing outcome by less than one percent.

Attention is next given to the effect of controlling for the type of offense charged. Although there is some evidence in Table 2 of a strengthening of  $t_b$  relationships when offense is held constant, the more notable result is to emphasize the relatively small relationships involved in many of these studies. Thus, while many of the findings reported in Table 2 are statistically significant, the median value of  $t_b$  reported in the offense column of this table is .014. That is, when one controls for type of offense, the median increase in the accuracy of prediction of judicial disposition from knowledge of the defendant's race is 1.4 percent.

A useful illustration of the uninformative nature of signifi-

TABLE 2: RACE AS AN INDEPENDENT VARIABLE (NON-CAPITAL CASES)

Study	Dependent Variable	Controls for Legally Significant Variables							
		X <sup>2</sup>	t <sub>b</sub>	Offense	X <sup>2</sup>	t <sub>b</sub>	Prior Record	X <sup>2</sup>	t <sub>b</sub>
SELLIN (1928)	sentence	(392.4)	(.008)	felonies	(119.6)	(.036)	none	3.21	(.016)
		(P<.01)		misdeemeanor	(266.4)	(.010)			
MARTIN (1934)	sentence	(31.97)	(.007)						
LEMERT <i>et al.</i> (1948)	sentence	(20.41)	(.008)	burglary	19.16	(.021)	none	3.21	(.016)
		(P<.01)		2nd degree auto theft	P<.01				
				narcotics	15.16	(.014)		15.98	(.080)
				assault	P<.05			P<.01	
				rape	7.85	(.047)			
					P<.05				
					10.09	(.035)			
					P>.10				
					3.06	(.017)			
					P>.10				
BULLOCK (1961)	sentence	(8.37)	(.002)	murder	8.10	(.004)	none	1.00	(.003)
		(P<.01)		rape	P<.01				
				burglary	1.92	(.005)		4.90	(.015)
					P<.25			P>.10	
					14.45	(.010)			
					P<.01				
GREEN (1961)	sentence	20.5	.002	burglary	4.79	(.006)	none	1.00	(.003)
		(P<.01)			P=.19		some	P>.80	(.015)
FORSLUND (1969)	conviction	(43.33)	(.011)						
		(P<.01)							
SOUTHERN REGIONAL COUNCIL (1969)	sentence	(25.66)	(.025)				none	(10.14)	(.024)
		(P<.01)					some	(P<.01)	
								(13.74)	(.022)
								(P<.01)	



TABLE 2: CONTINUED

Study	Dependent Variable	Controls for Legally Significant Variables							
		X <sup>2</sup>	t <sub>b</sub>	Offense	X <sup>2</sup>	t <sub>b</sub>	Prior Record	X <sup>2</sup>	t <sub>b</sub>
NAGEL (1969)	—state cases	(3.53) (P>.01)	(.004)	state assault	(1.08) (P=.30)	(.003)			
	—federal cases	(7.73) (P<.01)	(.013)	state larceny	(26.48) (P<.01)	(.056)			
	(larceny & assault cases)	(P<.01)		federal assault	(.29) (P<.59)	(.003)			
				federal larceny	(8.20) (P<.01)	(.017)	none	(.52) (P=.47)	(.003)
						some	(7.51) (P<.01)	(.025)	

cance tests is found in Bullock's (1969) data. Bullock presents several tables showing relationships between race and sentencing that are statistically significant at the .01 level. Unfortunately, these tables were percentaged within categories of the *dependent variable*, "length of sentence." Although handling the data in this manner has no effect on calculations of statistical significance, presentation in this form makes interpretation of the results difficult (Zeisel, 1957; Hirschi and Selvin, 1967). In Table 3, the original data have been recalculated within categories of the *independent variable*, "race." The results are instructive.

The first section of Table 3 contains all cases in the original sample, with the dependent variable dichotomized into "short" and "long" sentences. The percentage difference between blacks and whites receiving short and long sentences is only four percent, yet this finding is statistically significant at the .01 level. When the type of offense is controlled in the remaining sections of Table 3, the percentage differences increase somewhat, but fluctuate in direction. Thus, while eight percent of the blacks receive *longer* sentences for burglary, seven percent receive *shorter* sentences for rape and murder. Fluctuations of this size in the direction of the relationship could easily result from a distortion introduced in the original research when the continuous dependent variable, length of sentence, was dichotomized into the categories "short" and "long." There is the additional possibility that these findings result from the failure to hold constant prior record and number of charges. Notwithstanding these possibilities, three of the four relationships illustrated in Table 3 are *statistically* significant.

Returning to Table 2, we consider next the effects of controlling both for the type of offense charged *and* the previous record of the offender. Three studies (Lemert and Rosberg, 1948; Green, 1961; and Nagel, 1969) have utilized this type of simultaneous control." Each of the three dichotomizes the previous record of the offenders in terms of either no previous convictions, or, one or more previous convictions. When one controls for both offense and prior record, the results are strikingly consistent. In all three studies, considering first only those offenders with no previous convictions, the relationship between race and sentencing becomes statistically insignificant (at the .05 level), with the median  $t$ , only .003. Thus, the increase in the accuracy of predicting judicial outcome on the basis of knowledge of race is less than one percent. Alterna-

TABLE 3: RACE AND SENTENCING (BULLOCK, 1961)

Race	Total Cases		Burglary Cases		Rape Cases		Murder Cases	
	Per Cent Short Sentences	Per Cent Long Sentences	Per Cent Short Sentences	Per Cent Long Sentences	Per Cent Short Sentences	Per Cent Long Sentences	Per Cent Short Sentences	Per Cent Long Sentences
Black	52%	48%	72%	28%	41%	59%	42%	58%
White	56%	44%	80%	20%	34%	66%	35%	65%
X <sup>2</sup>	8.37		14.45		1.92		8.10	
P	<.01		<.01		<.25		<.01	
t <sub>b</sub>	.002		.010		.005		.004	

TABLE 4: THE EFFECTS OF CONTROLLING FOR PRIOR CONVICTIONS (NAGEL, 1969)

Race	Total Federal Larceny Cases		Federal Larceny Cases, No Prior Convictions		Federal Larceny Cases, Some Prior Convictions	
	Per Cent Suspended Sentence or Probation	Per Cent Imprisoned	Per Cent Suspended Sentence or Probation	Per Cent Imprisoned	Per Cent Suspended Sentence or Probation	Per Cent Imprisoned
Black	46%	54%	80%	20%	34%	66%
White	60%	40%	86%	14%	50%	50%
X <sup>2</sup>	8.20		.52		7.51	
P	<.01		.47		<.01	
t <sub>b</sub>	.017		.003		.025	

tively, when those cases of offenders with "some" previous convictions are considered, the relationships between race and sentencing in two of the three studies remain statistically significant.  $Tau_{ij}$  ranges between a high value in Lemert and Rosberg's (1948) study of .08 to a low value in Green's (1961) research of .015. The median  $t_{ij}$  is .025, representing a 2.5 percent increase in the accuracy of predicting judicial outcome on the basis of knowledge of race.

An example of the interaction effect just described, un-discussed in the original study, can be illustrated by reconstructing several tables from Nagel's (1969) research. The reconstructed data is presented in Table 4. The first section of this table indicates a 14 percent difference in the rate of imprisonment of black and white offenders. However, when the presence or absence of prior convictions is controlled, the outcome changes. Thus, among offenders with no prior convictions, the difference in the rate of imprisonment for blacks and whites shrinks to six percent and loses statistical significance at conventional levels. In contrast, among offenders with "some" prior convictions, the racial difference in the rate of incarceration increases to 16 percent and retains statistical significance.

It is interesting to note two of the interpretations given to the type of findings just reported. Lemert and Rosberg (1948: 18) conclude that the statistically significant relationship between race and sentencing for offenders with "some" previous convictions indicates that, ". . . race prejudice is a more significantly operating variable when groups concerned are definitely stereotyped as criminal." In contrast, Green (1961: 11) suggests that the control implied in "one or more" previous convictions, ". . . is insensitive to possible differences between whites and racial minorities in the *number* of prior felony convictions, a factor which is very likely to influence the judge's determination of the sentence" (emphasis in the original). Clearly, additional data providing a more systematic control for the number of prior convictions will be necessary before any definitive conclusions can be reached. For the moment, we can only conclude that this version of the "racial hypothesis" remains open to some doubt.

Attention is directed, next, to Table 5, containing studies concerned primarily with sentencing in capital cases. Findings reported in this table parallel those in Table 2. Again, the relationships observed are not large. Thus, the median value of  $t_{ij}$ , before controlling for offense, is .012, and .015 after holding

offense constant. Knowing the race of the offender in capital cases, then, increases the accuracy of predicting judicial disposition by 1.5 percent. The causal importance of this relationship, however, is called into doubt by the single study controlling simultaneously for charge, and related "third" variables. Thus, Judson *et al.* (1969) report a partial  $r^2$  in this context of .001.<sup>10</sup> This relationship is not statistically significant at the .05 level.

### **Inter-Racial Offenses**

Findings reviewed to this point suggest some reason to doubt the charge of racial discrimination in sentencing. One plausible path of analysis, however, remains to be examined. The hypothesis which we shall next examine is that it is in the context of *inter-racial* offenses, particularly those involving blacks victimizing whites, that differential sentencing is most likely to occur. This proposition has been tested in samples of both capital and non-capital offenses.

TABLE 5: RACE AS THE INDEPENDENT VARIABLE (CAPITAL CASES) Controls for Legally Significant Variables

Study	Dependent Variable	X <sup>2</sup>	t <sub>b</sub>	Offense	X <sup>2</sup>	t <sub>b</sub>	Prior Record	X <sup>2</sup>	t <sub>b</sub>
JOHNSON (1941)	appellate review	(.09) (P=.76)	(.001)	sample contains capital cases only					
	sentence (murder cases only)	(7.57) (P=.02)	(.008)	1st degree murder	(9.83) (P<.01)	(.015)			
GARFINKEL (1949)	sentence (murder cases only)	(7.57) (P=.02)	(.008)	2nd degree murder & manslaughter	(.00) (P=.96)	(.001)			
	appellate review (capital cases only)	(11.33) (P<.01)	(0.17)	murder	(14.19) (P<.01)	(.029)			
JOHNSON (1957)	appellate review (capital cases only)	(11.33) (P<.01)	(0.17)	rape	(.92) (P>.30)	(.007)			
	appellate review (capital cases only)	(11.33) (P<.01)	(0.17)	burglary	(1.04) (P>.30)	(.025)			
BEDAU (1964)	execution	(8.20) (P=.02)	(.012)	sample contains capital cases only					
PARTINGTON (1965)	sentence (rape cases only)	(46.06) (P<.01)	(.001)	Att'd rape	(30.26) (P<.01)	(.021)			
	sentence (rape cases only)	(46.06) (P<.01)	(.001)	Att'd stat. rape	(2.18) (P=.14)	(.128)			
	sentence (capital cases only)	(46.06) (P<.01)	(.001)	Stat. rape	(5.48) (P=.02)	(.013)			
	sentence (capital cases only)	(46.06) (P<.01)	(.001)	Rape	(34.30) (P<.01)	(.006)			
WOLFGANG et al. (1962)	appellate review (capital cases only)	4.33 P<.05	(.012)	felony murder non-felony murder	4.27 P=.04 .87	(.023) (.007)			
	sentence (capital cases only)	4.157 P=.05	(.031)	felony murder non-felony murder	2.23 P=.14 .23	(.036) (.004)			
BEDAU (1965)	execution	(.06) (P=.97)	(.001)	sample contains capital cases only					
JUDSON et al. (1969)	execution	(10.34) (P=.02)	(.043)	sample contains capital cases only			interval measure	(P>.05)	.001*

\*the value reported in this column is r<sup>2</sup>, a measure analogous to t<sub>b</sub>, at an interval level of measurement (See Costner, 1965).

TABLE 6: INTER-RACIAL ROBBERY AND BURGLARY\*

Robbery cases:	B-W	W-W	B-B	Total
Observed Means†	27.5 (51)	22.4 (22)	14.3 (45)	21.5 (118)
Expected Means†	27.1	21.9	15.0	21.5
Burglary cases:	B-W	W-W	B-B	Total
Observed Means†	10.62 (149)	12.28 (80)	6.96 (66)	10.3 (295)
Expected Means†	10.44	11.88	8.30	10.3

\*This table is adapted from Green (1964): B-W=black defendant-white victim; W-W=white defendant-white victim; B-B=black defendant-black victim.

†"means" refer to average sentence length in months.

Table 6 contains the single study (Green, 1964) offering a test of the inter-racial hypothesis in a sample of non-capital cases. Using a mode of analysis somewhat different from that of other studies considered in this review, Green first established the mean sentence received for robbery and burglary offenses in each of three offender-victim groupings. Next, "expected" means were calculated for each of the groupings on the basis of the specific offense, number of bills of indictment, and prior convictions characterizing the cases in each grouping. Comparisons of the observed and expected means, presented in Table 6, reveal that the discrepancies are small and in no consistent direction. The inter-racial hypothesis thus receives little support from this set of findings.

The implications of the findings in Table 7, containing samples of capital cases, are more disturbing. In this table, three of the five studies report findings statistically significant at the .05 level, with a median  $t_b$  of .021. The finding causing the most concern, however, is the relationship between race and sentence reported by Wolfgang and Riedel (1973). In this study of inter- and intra-racial rape in eleven southern states, the zero-order relationship between race and sentence produces a  $t_b$  of .226. In other words, knowing the inter- and/or intra-racial make-up of rape cases, allows a 22.6 percent increase in the accuracy of predicting a life or death outcome for the defendants.

Unfortunately, Wolfgang and Riedel have not yet published data relating to a further control for the prior records of the offenders. Instead, they have simply indicated that such a control does not eliminate the statistical significance of the original relationship. Given our earlier discussion of the influence of sample size on the results of significance tests, we clearly cannot base any final conclusions on this information alone. Nevertheless, given the strength of the original relationship, it is safe to conclude that this study raises the definite

TABLE 7: INTER-RACIAL CAPITAL CRIMES

Study	Dependent Variable	Offense	Controls for Legally Significant Variables			
			X'	t <sub>b</sub>	Prior Record	X'
JOHNSON (1941)	Appellate Review	Capital cases	(2.37) (P=.12)	(.019)		
GARFINKEL (1949)	Sentence	1st Degree Murder	(8.38) (P<.01)	(.022)		
		2nd Degree Murder & Manslaughter	(.167) (P=.68)	(.001)		
PARTINGTON (1965)	Sentence	Rape Cases Only	(5.68) (P=.02)	(.063)		
WOLFGANG et al. (1973)	Sentence	Rape Cases Only	275.71 P<.05	(.226)		
JUDSON et al. (1969)	Sentence	Capital Cases	(.008) (P=.93)	(.001)		

TABLE 8: SOCIO-ECONOMIC STATUS AS AN INDEPENDENT VARIABLE (NON-CAPITAL CASES)

Study	Dependent Variable	Offense	Controls for Legally Significant Variables			
			X'	t <sub>b</sub>	Prior Record	X'
MARTIN (1934)	sentence		(180.63) (P<.01)	(.004)		
FORSLUND (1969)	conviction		(58.41) (P<.01)	(.016)		
NAGEL (1969)	sentence					
	—state cases	federal state	(30.88) (P<.01)	(.030)	(8.84) (P<.01)	(.024)
	—federal cases	assault state	(15.10) (P<.01)	(.023)	(23.75) (P<.01)	(.040)
	(larceny & assault cases)	larceny assault federal			(2.09) (P=.14)	(.017)
		larceny			(12.70) (P<.01)	(.024)
		assault			none	(.124) (P=.26)
		federal			some	(2.76) (P=.10)
		larceny				(.008)
		cases)				(.009)



suspicion of differential sentencing, even if it does not definitively establish its existence.<sup>11</sup>

Finally, it should be noted that four of the five studies reported in Table 7 were carried out in the southern United States. The single study of sentencing in inter-racial capital cases conducted outside of the south (Judson *et al.*, 1969), does not report statistically significant differences in the use of the death penalty by the race of offender and victim. The authors note in the text that this relationship remains non-significant in the presence of a control for prior record and several other possible suppressor variables.

### **Socio-Economic Status as the Independent Variable**

Next to race, socio-economic status of the defendant is probably the most common suspect variable in studies of sentencing. Six of the studies available to this review have focused on the socio-economic status of the offender as an independent variable. Their findings are summarized in Tables 8 and 9.<sup>12</sup>

Looking at Table 8, containing samples primarily of non-capital cases, we find statistically significant findings both before and after controls for the type of offense are introduced. The median  $t_b$  before controlling for type of offense is .020, and .024 after its introduction as a control. Holding offense constant, then, the median increase in the accuracy of predicting disposition, knowing socio-economic status, is 2.4 percent.

The most important findings in Table 8, however, are found in Nagel's analysis of larceny cases in the federal courts. It was in federal larceny cases only that Nagel was able to control for both offense type and prior record of the offender. Controlling only for the offense, Nagel's data indicate a statistically significant ( $P < .01$ ) relationship between socio-economic status and sentencing ( $t_b = .024$ ). However, when one controls for prior record, the relationship becomes statistically insignificant (at the .05 level) and diminished in strength ( $t_b = .008$  and .009). When legally relevant factors are held constant, then, knowledge of social class increases accuracy in predicting the sentencing decision by less than one percent.

Somewhat different findings emerge from Table 9, containing studies in which the samples consist mainly of capital cases. While the first two studies in this table (Bedau, 1964; 1965) report findings that are statistically non-significant at the .05 level and weak in strength ( $t_b = .002$  and .022), the final study (Judson *et al.*, 1969), reports a relationship between socio-

TABLE 9: SOCIO-ECONOMIC STATUS AS THE INDEPENDENT VARIABLE (CAPITAL CASES)  
 Controls for Legally Significant Variables

Study	Dependent Variable	Offense	X <sup>2</sup>	t <sub>b</sub>	Prior Record	X <sup>2</sup>	t <sub>b</sub>
BEDAU (1964)	execution	capital cases	(.73) (P=.69)	(.002)			
BEDAU (1965)	execution	capital cases	(3.23) (P=.07)	(.022)			
JUDSON <i>et al.</i> (1969)	execution	first degree murder	(17.77) (P=.001)	(.048)*	interval measure	(P<.01)	(.032)*

\*the value reported in this column is r<sup>2</sup>, a measure analogous to t<sub>b</sub>, at an interval level of measurement (See Costner, 1965).

economic status and disposition which is statistically significant at the .001 level, and somewhat stronger in strength ( $r^2=.048$ ). This relationship remains substantially unchanged ( $r^2=.032$ ), and statistically significant ( $P<.01$ ), following the introduction of controls for prior record and a series of other potentially contaminating variables. There is, then, evidence of differential sentencing by social class in the disposition of capital cases, in this study of jury sentencing in a non-southern state.

### **Age and Sex as the Independent Variables**

A final set of tables considers the role of age and sex as independent variables in the sentencing decision. Looking first at Tables 10 and 11, we find a number of studies reporting data on the role of age. Although three of the four studies in Table 10 initially report statistically significant relationships between age and disposition, these relationships are consistently small. The median value of  $t_b$ , before controlling for offense type and prior record, is .006. Following the introduction of these controls, Green reports that the relationship loses statistical significance (at the .05 level), and attains a value of  $t_b$  equal to .011. Similarly small relationships are the norm in Table 11, where studies involving capital cases are summarized.

Tables 12 and 13 contain data from three studies which have considered the role of sex as an independent variable in judicial dispositions. The pattern of findings recorded in these tables is consistent with that contained in the findings derived from Green's (1961) research. Green's data indicate that when sex of the offender and final sentencing decision are related, without controlling for additional legal variables, the result is a  $t_b$  of .005, a finding significant at the .02 level. However, when offense type is held constant, and when only those cases of offenders with no previous convictions are considered, the resulting relationships are reduced below statistical significance, and the values attained by  $t_b$  are .001 and .004. This pattern is repeated in a study of capital cases by Judson *et al.* (1969). Thus, it may be concluded tentatively that the sex of the defendant plays a negligible role in the sentencing decision.

### **Discussion**

The central finding of this review of past research is that there is generally a small relationship between extra-legal attributes of the offender and sentencing decisions. In more concrete terms, the findings of this review can be summarized with reference to each of the four attributes considered:

TABLE 10: AGE AS AN INDEPENDENT VARIABLE (NON-CAPITAL CASES)

Study	Dependent Variable	Controls for Legally Significant Variables			
		X <sup>2</sup>	t <sub>b</sub>	Offense	Prior Record
MARTIN (1934)	sentence	(14.01) (P<.01)	(.015)		
GREEN (1961)	sentence	60.30 (P<.01)	(.007)	burglary	none
FORSLUND (1969)	conviction	(22.49) (P<.01)	(.006)		4.0 P>.20
NAGEL (1969)	sentence —state cases —federal cases (larceny & assault cases)	(1.92) (P=.17) (1.38) (P=.24)	(.002) (.001)	state assault state larceny federal assault federal larceny	(.004) (.011) (.001) (.003)

TABLE 11: AGE AS THE INDEPENDENT VARIABLE (CAPITAL CASES)

Study	Dependent Variable	Controls for Legally Significant Variables			
		X <sup>2</sup>	t <sub>b</sub>	Prior Record	X <sup>2</sup>
BEDAU (1964)	execution	(3.84) (P=.15)	(.008)		
WOLFGANG et al. (1962)	appellate review	(27.44) (P<.01)	(.067)		
WOLF (1965)	sentence	.43 P=.51	(.008)		
BEDAU (1965)	execution	(1.24) (P=.54)	(.005)		
JUDSON et al. (1969)	execution	(.35) (P=.56)	(.001)		

TABLE 12: SEX AS AN INDEPENDENT VARIABLE (NON-CAPITAL CASES)

Study	Dependent Variable	Controls for Legally Significant Variables								
		X <sup>c</sup>	t <sub>b</sub>	Offense	X <sup>c</sup>	t <sub>b</sub>	Prior Record	X <sup>c</sup>	t <sub>b</sub>	
MARTIN (1934)	sentence	(3.29) (P=.99)	(.001)							
GREEN (1961)	sentence	9.1 P<.02	(.005)	felony		none	.02 P=.99			(.001)
				misdemeanor		none	1.45 P>.30			(.004)
NAGEL (1969)	sentence			state	(.66) (P=.42)				(.002)	
	—state cases	(2.77) (P=.10)	(.006)	assault	(6.46) (P=.01)				(.011)	
	—federal cases	(.37) (P=.54)	(.001)	larceny	(.08) (P=.78)				(.001)	
	(larceny & assault cases)			federal	(1.54) (P=.21)				(.003)	
				federal						

TABLE 13: SEX AS THE INDEPENDENT VARIABLE (CAPITAL CASES)

Study	Dependent Variable	Controls for Legally Significant Variables					
		Offense	X <sup>c</sup>	t <sub>b</sub>	Prior Record	X <sup>c</sup>	t <sub>b</sub>
BEDAU (1964)	execution	capital cases	7.52 P<.01	(.033)			
JUDSON <i>et al.</i> (1969)	execution	first degree murder	(10.49) (P=.001)	(.041)	interval measure		P>.05 (.006)*

\*the value reported in this column is r<sup>2</sup>, a measure analogous to t<sub>b</sub>, at an interval level of measurement (See Costner, 1965).

- (a) *Race*: Evidence of differential sentencing was found in inter-racial *capital cases* in the southern United States. In samples of *non-capital cases*, however, when offense type was held constant among offenders with *no* prior record, the relationship between race and disposition was diminished below statistical significance. Holding offense type constant, among offenders with "some" previous convictions, a modest, statistically significant relationship between race and disposition was sustained in two of three studies. The need for stricter control over the *number* of previous convictions was indicated.
- (b) *Socio-Economic Status*: With social class as the relevant variable, some evidence of differential sentencing was again found in *capital cases* in a non-southern state. This finding withstood controls for legally significant factors. In a sample of *non-capital cases*, however, the relationship between class and disposition was diminished in strength, and reduced below statistical significance, by holding constant the effects of offense type and prior record.
- (c) *Age and Sex*: In *capital and non-capital cases* alike, initial relationships between both age and sex, and judicial disposition, were reduced below statistical significance by the introduction of controls for legally relevant factors.

Several comments regarding these conclusions may be helpful in placing them in proper context. First, it should be noted that capital cases constitute a relatively small proportion of criminal cases. Second, samples of capital cases used in the studies we have considered often have included sentencing decisions made as far back as the turn of the century. Third, capital cases are frequently tried before juries, rather than judges. Several of the studies of sentencing in capital cases deal with jury dispositions only (Wolff, 1965; Judson *et al.*, 1969), while others concerned with inter-racial offenses focus *primarily* on jury decisions (see Garfinkel, 1949: 403). Such studies may, then, say more about the inadequacies of the jury system, particularly as it has been involved in the invocation of the death penalty, than about the general operations of the courts.

In commenting on the findings recorded in this review,

it is also important to note that the authors of the original articles often suggested the occurrence of unjust discrimination, where our analysis has frequently indicated the weakness of the evidence "supporting" such inferences. One plausible explanation of this discrepancy returns us to a concern, voiced at the outset of this paper, regarding the uncritical use of tests of significance. It was noted that a problem with conclusions formed solely on the basis of significance tests is the tendency to confuse substantive and causal significance with statistical significance, thus short-circuiting the search for alternative explanations of relationships. In the studies here reviewed, analysis frequently stopped short of the consideration of important legal variables, while at the same time overlooking the size of the relationships reported.

Finally, the central finding of this discussion must be re-emphasized. Review of the data from twenty studies of judicial sentencing indicates that, while there may be evidence of differential sentencing, knowledge of extra-legal offender characteristics contributes relatively little to our ability to predict judicial dispositions. Only in rare instances did knowledge of extra-legal attributes of the offender increase our accuracy in predicting judicial disposition by more than five percent.

### **Conclusions**

The findings of this review have several important implications. One plausible response to the data reviewed would be the suggestion that official, fragmentary sources of data are necessarily inadequate to the question at issue. It could be suggested that what is required is longitudinal data, based on observations of defendants' experiences in transit through the criminal justice system. Attention would here be given to such factors as the circumstances of police-suspect encounters, arrest procedures, charge considerations, plea-negotiation, legal representation, bail arrangements and pre-sentence investigations.<sup>13</sup> These factors may operate cumulatively to the disadvantage of minority group defendants. A longitudinal approach might, then, make visible a sequence of events that seriously detracts from equality in sentencing.

It should be noted, however, that there is some research on earlier stages in the legal process that suggests conclusions surprisingly similar to those reported in this review (*see particularly* Bordua, 1969; Black, 1971). While such findings could hardly be interpreted as disputing the value of a vigilant con-

cern for social justice, at the same time they do suggest the need for "new directions" in sentencing research (cf. Blumberg, 1967: 19; Lemert, 1971: 62).

A partial list of other approaches yet to be fully developed would include attention to the following: (a) the effects of such organizational constraints as case-loads, court referral rates, and fluctuations of space in treatment institutions; (b) the role of such community factors as recidivism rates, variation in offense patterns, and the publicity given to certain types of crimes; and (c) the importance of characteristics of those doing the judging, such as their cognitive styles, attitude sets, and perceptual patterns. Study of these variables will require an awareness of movement between different levels of analysis, and also use of some of the multivariate techniques that have to date received relatively little attention from those concerned with sentencing patterns in the criminal courts.<sup>14</sup>

There is, finally, one remaining possibility to be considered. It could be argued that extra-legal attributes of the offender are likely to exercise their influence at each stage of the legal process in *interaction* with the types of variables we have just discussed. For example, it is certainly plausible to expect variation in the attitudes of judges toward different groups of offenders. Variation in attitudes, in association with corresponding patterns in sentencing, could plausibly lead to a suppression effect, with the harsh sentences of less tolerant judges canceling out the lenient sentences of those judges more sympathetic to the group involved. A test of this hypothesis will require the researcher to go beyond the confines of official court data to obtain independent measures of judicial attitudes and related variables. Once again, then, official, fragmentary sources of data seem unable by themselves to provide the evidence sufficient to resolve important questions about the sentencing process. Definitive answers, it seems, must await the collection and analysis of new kinds of data on sentencing.

### NOTES

<sup>1</sup> The term "extra-legal attributes" is used in this discussion to refer to perceived characteristics of the offender that are legally irrelevant to the imposition of sentence.

The term "sociological viewpoint" is used in a restrictive sense to refer to an emphasis on extra-legal attributes in studies of sentencing. There are, of course, other sociological views on sentencing, and some of these are considered in the conclusion to this paper.

<sup>2</sup> Studies were originally located by consulting previous discussions of the sentencing literature (Green, 1971; Overby, 1971; Mannheim, 1968), a bibliography on sentencing research (Tompkins, 1971), *Abstracts on Criminology and Penology*, and *Sociological Abstracts*. A purposive sample of 20 studies, and tables therein was then selected on the basis



- of three criteria: (1) public availability, (2) attention to variables of concern, and (3) frequency of citation in the literature.
- <sup>3</sup> One misguided reason for the use of large samples in sentencing studies is the assumption that such a procedure will randomize the affects of extraneous variables. This assumption is, of course, false.
  - <sup>4</sup> Labovitz (1969: 143) makes a similar point in the following manner:  
It may be argued that significance tests at best provide the absolute minimum of knowledge, *e.g.*, whether or not 'r' is significantly different from zero. . . . But a zero relation . . . is useless to refute. Most things (and perhaps all things) are statistically related, if only to a very small degree. The surprising case is the zero relation, which is more likely in small samples than in large.
  - <sup>5</sup> For an excellent discussion of the techniques of causal analysis and the use of statistical controls for the test of alternative explanatory hypotheses, see Hirschi and Selvin (1967: 35-174). Their discussion will also be useful in distinguishing the different techniques used in introducing statistical controls in tabular, as contrasted with multivariate analysis.
  - <sup>6</sup> One of the studies (Jacob, 1962) did not present data in a manner suited to inclusion in this table; two other studies (Green, 1964; Wolfgang and Riedel, 1973) are reserved for consideration in Tables 6 and 7.
  - <sup>7</sup> A copy of the tables used in this article is available, on request, from the author. For a discussion of the methods of secondary analysis used in this review, see Hirschi and Selvin (1967: ch. 3).
  - <sup>8</sup> Chi square was chosen as the test of significance in this review because of its frequent use in the original studies. For a discussion of the chi square test of significance, see Blalock (1960: 212-21). Tau-b was selected as the measure of association on the basis of its proportional-reduction-in-error (PRE) interpretation (see Costner, 1965) and, further, on its performance in a recent "test of validity" by Hunter (1973). For a discussion of tau-b, see Blalock (1960: 232-34).
  - <sup>9</sup> It should be noted that Lemert and Rosberg's study additionally involves a control for occupational status. A fourth study (Southern Regional Council, 1969) did not control for previous record simultaneously with offense, and therefore is not included in this discussion.
  - <sup>10</sup> For a discussion of the techniques of partial correlation, see Blalock (1960: Ch. 19). For a discussion of the particular partial correlation procedures used in this instance, see Judson *et al.* (1969).
  - <sup>11</sup> A more convincing demonstration of the causal basis of the relationship would involve presentation of data including a *simultaneous* control for prior record, contemporaneous offenses, and type of rape charged (*e.g.*, rape, attempted rape, statutory rape, attempted statutory rape). Presentation of this data would illustrate in more definitive terms what is suggested in the material already published.
  - <sup>12</sup> In five of these studies (Martin, 1934; Forslund, 1969; Bedau, 1964; 1965; and Judson *et al.*, 1969), the indicator of socio-economic status is occupation; in the sixth study (Nagel, 1969), the indicator is "indigent" or "non-indigent" financial status.
  - <sup>13</sup> Perhaps the most important of these factors is pre-trial incarceration and the use of bail (for example, see Engle, 1971).
  - <sup>14</sup> Recent research by John Hogarth (1971) represents an important reconceptualization of the study of sentencing along many of the lines suggested in this discussion.

## REFERENCES

- BEDAU, Hugo A. (1964) "Death Sentences in New Jersey," 19 Rutgers Law Review 1.
- ..... (1965) "Capital Punishment in Oregon, 1903-64," 45 Oregon Law Review 1.
- BLACK, Donald (1971) "The Social Organization of Arrest," 23 Stanford Law Review 1087.
- BLALOCK, Hubert A. (1960) Social Statistics. New York: McGraw-Hill.
- BLUMBERG, Abraham (1967) Criminal Justice. Chicago: Quadrangle Books.
- BORDUA, David J. (1969) "Recent Trends: Deviant Behavior and Social

- Control," 369 *The Annals of the American Academy of Political and Social Science* 149.
- BULLOCK, Henry (1961) "Significance of the Racial Factor in the Length of Prison Sentences," 52 *Journal of Criminal Law, Criminology, and Police Science* 411.
- CAMILLERI, Santo F. (1962) "Theory, Probability, and Induction in Social Research," 27 *American Sociological Review* 170.
- CHAMBLISS, William J. and Robert B. SEIDMAN (1971) *Law, Order, and Power*. Reading, Massachusetts: Addison-Wesley Publishing Co.
- COSTNER, Hubert L. (1965) "Criteria for Measures of Association," 30 *American Sociological Review* 341.
- ENGLE, C. Donald (1971) *Criminal Justice in the City*. Unpublished Ph.D. Dissertation: Temple University.
- FORSLUND, Morris A. (1969) "Age, Occupation, and Conviction Rates of White and Negro Males: A Case Study," 6 *Rocky Mountain Social Science Journal* 141.
- GARFINKEL, Harold (1949) "Research Note on Inter- and Intra-Racial Homicides," 27 *Social Forces* 369.
- GREEN, Edward (1961) *Judicial Attitudes in Sentencing*. London: Mac-Millan and Company Ltd.
- ..... (1964) "Inter- and Intra-Racial Crime Relative to Sentencing," 55 *Journal of Criminal Law, Criminology and Police Science* 348.
- ..... (1971) "Research on Disparities," in Leon RADZINOWICZ and Marvin WOLFGANG (editors) *Crime and Justice, Vol. II, The Criminal in the Arms of the Law*. New York: Basic Books.
- HIRSCHI, Travis and Hannan C. SELVIN (1967) *Delinquency Research: An appraisal of Analytic Methods*. New York: Free Press.
- HOGARTH, John (1971) *Sentencing as a Human Process*. Toronto: University of Toronto Press.
- HUNTER, A. A. (1973) "On the Validity of Measures of Association: The Nominal-Nominal, Two-by-Two Case," 79 *American Journal of Sociology* 99.
- JACOB, Hubert (1962) "Politics and Criminal Prosecutions in New Orleans," 8 *Tulane Studies in Political Science* 77.
- JOHNSON, Guy (1941) "The Negro and Crime," 217 *The Annals of the American Academy of Political and Social Science* 93.
- JOHNSON, Elmer H. (1957) "Selective Factors in Capital Punishment," 36 *Social Forces* 165.
- JUDSON, Charles J., James J. PANDELL, Jack B. OWENS, James L. McINTOSH, Dale L. MATSCHULLAT (1969) "A Study of the California Penalty Jury in First Degree Murder Cases," 21 *Stanford Law Review* 1297.
- KISH, Leslie (1959) "Some Statistical Problems in Research Design," 24 *American Sociological Review* 328.
- LABOVITZ, Sanford (1969) "The Nonutility of Significance Tests: The Significance of Tests of Significance Reconsidered," 13 *Pacific Sociological Review* 141.
- LEMERT, Edwin M. and Judy ROSBERG (1948) "The Administration of Justice to Minority Groups in Los Angeles County," 11 *University of California Publications in Culture and Society* 1.
- LEMERT, Edwin M. (1971) *Instead of Court: Diversion in Juvenile Justice*. Washington: U.S. Government Printing Office.
- MANNHEIM, Hermann (1968) "Sentencing Revisited," in Marvin WOLFGANG (editor) *Crime and Culture*. New York: John Wiley and Sons Inc.
- MARTIN, Roscoe (1934) *The Defendant and Criminal Justice*. University of Texas Bulletin No. 3437: Bureau of Research in the Social Sciences.
- NAGEL, Stuart (1969) *The Legal Process from a Behavioral Perspective*. Homewood, Illinois: The Dorsey Press.
- OVERBY, Andrew (1971) "Discrimination Against Minority Groups," in Leon RADZINOWICZ and Marvin E. WOLFGANG (editors) *Crime and Justice, Vol. II, The Criminal in the Arms of the Law*. New York: Basic Books, Inc.
- PARTINGTON, Donald (1965) "The Incidence of the Death Penalty for Rape in Virginia," 22 *Washington and Lee Law Review* 43.

- QUINNEY, Richard (1970) *The Social Reality of Crime*. Boston: Little, Brown, and Company.
- SELLIN, Thorsten (1928) "The Negro Criminal: A Statistical Note," 140 *The Annals of the American Academy of Political and Social Science* 52.
- SELVIN, Hanan C. (1957) "A Critique of Tests of Significance in Survey Research," 22 *American Sociological Review* 519.
- SELVIN, Hanan C. and Alan STUART (1966) "Data Dredging Procedures in Survey Analysis," 20 *The American Statistician* 20.
- SOUTHERN REGIONAL COUNCIL (1969) *Race Makes the Difference*. Atlanta.
- TOMPKINS, Dorothy L. (1971) *Sentencing the Offender: A Bibliography*. University of California at Berkeley: Institute of Governmental Studies.
- WOLF, Edwin (1965) "Abstract of Analysis of Jury Sentencing in Capital Cases: New Jersey: 1937-1961," 19 *Rutgers Law Review* 56.
- WOLFGANG, Marvin E., Arlene KELLY and Hans C. NOLDE (1962) "Comparison of Executed and Convicted Among Admissions to Death Row," 53 *Journal of Criminal Law, Criminology, and Police Science* 301.
- WOLFGANG, Marvin E. and Marc RIEDEL (1973) "Race, Judicial Discretion, and the Death Penalty," 407 *The Annals of the American Academy of Political and Social Science* 119.
- ZEISEL, Hans (1957) *Say it with Figures*. New York: Harper & Row.