Who Gets Death? Race, Gender, and the Death Penalty in North Carolina

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Abstract

The use of the death penalty in the American states has experienced significant decline in recent decades. Yet, as a policy instrument, the death penalty remains highly salient and controversial. In this study, we take the long view, relying on nearly fifty years of data to compare the importance of legally relevant and legally irrelevant factors like race in the implementation of the death penalty. We find that both legally relevant and legally irrelevant factors shape death penalty outcomes, although neither operates in a straightforward or exclusive way. Legally relevant factors—such as whether a homicide occurs during the commission of another felony or involves multiple victims—do increase the likelihood of a death sentence, confirming that statutory aggravators matter in practice. However, even the most serious categories of crime do not consistently produce death sentences. Among frequently occurring felonies, none results in death sentencing rates above 10 percent, and even in cases involving sexual assault—the strongest predictor—only about one-third of offenders receive the death penalty. Among legally irrelevant factors, race and gender of the victim continue to exert overwhelming influence, as previous studies have also found in other jurisdictions.

Keywords: Capital punishment, death penalty, race, gender, proportionality, Baldus study.

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Introduction

Longitudinal trends in the U.S. punishment landscape indicate a clear and sustained decline in the use of the death penalty over the past two decades (Baumgartner et al. 2008; Unah 2009, 139). [1] This shift is driven in part by growing awareness of wrongful convictions, alongside increasing public recognition—and rejection—of the death penalty's disparate application along extra-legal lines such as race, gender, geography, and socioeconomic status (Baumgartner et al. 2018; Paternoster 1983; Songer and Unah 2006). The magnitude of this transformation is evident when viewed over time: in 2000, when the Supreme Court decided *Bush v. Gore* and resolved the contested presidential election, 38 states and the federal government authorized capital punishment, and executions were carried out with regularity. Twenty-six years later, only 26 states retain the death penalty, according to the *Death Penalty Information Center*. Even within these jurisdictions, its use has become increasingly constrained—death sentences and executions have both declined sharply and now occur infrequently. In California, Pennsylvania, and Ohio, governors have declared formal moratoria on executions, underscoring the broader retreat from capital punishment in the United States.

In North Carolina, a state historically recognized for its hegemonic use of the death penalty (Kotch 2019; Nakel and Hardy 1987; Philips 1967), public support for the death penalty has dropped, capital juries rarely return death sentences, and no executions have occurred since 2006.[2] In most legal reforms across the country, emphasis has been on recognition that death penalty prosecution and decision making should be based on law and factors enumerated in the criminal statute and not on extra-judicial factors such as race, gender, geography, or

[1] We thank Shea Stephens for her careful assistance in case matching and Mary Kroeger for comments on an earlier draft.

[2] In August 2025, the North Carolina General Assembly passed a new law aimed at restarting executions, effectively threatening to end the moratorium on execution that has existed since 2006.

socioeconomic class. Indeed, race is supposed to have zero effect. The Supreme Court has declared that in public policy decisions, discrimination based on race is odious, constitutionally suspect, and unacceptable. Justice Anthony Kennedy made this crystal clear in *Edmonson v. Leesville Concrete Company* (1991) when he declared that "racial bias mars the integrity of the justice system and prevents the idea of democratic government from becoming reality" (p. 628). Despite the retreat in its use, the death penalty remains an issue of immense public interest and debate, especially as its growing financial costs continue to stretch and challenge state budgets (Cook 2009) and its usefulness as a deterrent to murders increasingly questioned (Berk, 2005, 328; Donahue and Wolfers 2005, 794; Kovandzic, Vieraitis, and Boots 2009, 803; National Research Council 2012, 102). The question motivating our study is whether factors other than law continue to weigh heavily in official decisions surrounding the death penalty. Specifically, we provide an empirical assessment of the death penalty, using *all* post-Gregg death penalty cases in North Carolina as a template. Our dataset is unique, covering nearly fifty years from 1976 to 2024 and we rely upon it to assess the power of legally relevant circumstances and legally irrelevant circumstances in the implementation of the death penalty.

The discriminatory use of the death penalty in the American states and federal government possess systemic dangers to various commands of the U.S. Constitution. Both the Due Process Clause and the Equal Protection Clause of the Fourteenth Amendment were designed to fight systemic evils such as arbitrariness and discrimination, which may spring up in government policy and process and ultimately rob citizens of their agency and equal justice under law. Both evils are politically salient and highly contested, and it is in preventing these evils that every American state and the federal government go into great length to codify statutory aggravating factors such as the severity of the offense for imposing the death penalty

(Unah 2011). In political science and law, arbitrariness and discrimination have formed the central and theoretical focus of research on the death penalty. We now discuss that research.

Theoretical Underpinning and Previous Baldus-Style Studies

Among the dominant approaches to studying the death penalty is the recognition of juridical punishment as a political construction. In his analysis of the origins of the penal system, criminological theorists, Michael Foucault calls criminal punishment a "political tactic" (1977, p. 23) and sociological theorist David Garland describes the death penalty as an "apparatus of power and control" (1990, 2). Within this understanding of the death penalty is the idea that the role of electoral ideology in criminal prosecution and punishment is enhanced with regards to a rising violent crime rate, especially as election nears (Huber and Gordon 2004; Brace and Boyea 2008). Thus, as public concern with crime is typically high, political leaders face high electoral pressure and are incentivized to develop visible tough-on-crime policies to safeguard public safety and maintain public order. The death penalty is a visible indicator of such a position.

Also, within this understanding of the death penalty as a political construction is the discretionary power exercised by prosecutors in deciding when to seek the death penalty and how vigorously to pursue it (Paternoster 1984; Unah 2009). Research has shown that "through the exercise of prosecutorial discretion, prosecutors make decisions that contribute to the discriminatory treatment of African Americans as both criminal defendants and victims of crime" (Davis, 1998, 27).

Research by Davis (2008), Songer and Unah (2006), and others point to untrammeled discretion exercised by prosecutors as the key source of arbitrariness and discrimination in our system of justice. Former defense attorney, Angela J. Davis observed this system closely and from within: "During my years as a public defender, I saw disparities in the way prosecutors

handled individual cases. Cases involving educated, well-to-do victims were frequently prosecuted more vigorously than cases involving poor, uneducated victims. The very few white defendants represented by my office sometimes appeared to receive preferential treatment from prosecutors. Although I saw no evidence of intentional discrimination based on race or class, the consideration of class-and race-neutral factors in the prosecutorial process often produced disparate results along class and race lines" (Davis, 2008, p. 25.)

Among the earliest large scale and thus overlapping studies of both prosecution and sentencing outcomes in the death penalty was the Baldus Study, which used Georgia death penalty data from 1973 to 1978 to examine the impact of race. This seminal study examined all key stages of the death penalty process from prosecutor's charging decisions to jury pronouncement of guilt to the sentencing phase. The study reported strong evidence of arbitrary prosecution and jury sentencing based on race. Race-of-victim effects were especially strong while race-of-defendant effects were anemic (Baldus, Woodward, Pulaski 1990). The race-of-defendant finding was contrary to previous scholarship, which tended to show that the death penalty was meted out primarily based on the race of the defendant (Wolfgang and Riedel 1973).

Many attempts have been made to replicate and extend the original Baldus Study in other states and at different time periods, including California (Pierce and Radelet 2005; Lynch and Haney 2009), Connecticut (Donahue, 2014), Florida (Radelet and Pierce 1991), Maryland (Paternoster et al., 2004, Paternoster and Brame 2008), Missouri (Barnes, Sloss, and Thaman 2009), New Jersey (Baldus 1991), Ohio (Williams and Holcomb, 2001), Nebraska (Baldus et al 2002), North Carolina (Unah and Boger 2001; Unah 2011), Louisiana (Lyman et al. 2021), and South Carolina (Songer and Unah 2006). Whereas the findings of these studies differ on the impact of the homicide defendant, they were unified and consistent across the board in finding

strong race of victim effect. Individuals who killed white victims encountered greater risk of facing the death penalty than individuals who killed black victims. This suggests that prosecutors tended to "devalue" black victims while valuing white victims significantly more.

More recently, research has also examined the likelihood of death penalty processing for black defendants who kill white victims in comparison with other defendant–victim race configurations. For instance, a study in Maryland conducted by Paternoster et al. (2004) found evidence that offenders in black defendant–white victim cases were more likely to be death noticed by prosecutors and to receive a death sentence than other offenders. This finding has been corroborated by studies in other states, including North Carolina (Unah 2011). In short, black defendants were viewed as more death worthy and therefore face greater risk of adverse treatment, especially when their victims are white than when their victims are black.

North Carolina

Several specific studies of the death penalty in North Carolina have been conducted by various authors emphasizing different time periods (Baumgartner 2010; Liebman et al. 2000; Kremlin et al, 2007; Unah and Boger 2001). The most detailed and comprehensive of these was the study conducted by Unah and Boger (2001); see also Unah (2011). They collected death penalty data resulting in 3990 known defendants representing 80 of the 100 counties of North Carolina from January 1, 1993-December 31, 1997. Since most murder cases are not death eligible, their analysis focused on the worse of worst, i.e., cases where the defendant could possibly have been given the death penalty if an aggravating factor was present.

The objective was to examine the role of *legal factors* such as statutory aggravating circumstances like having multiple victims in a murder transaction and mitigating circumstances like killing under duress; *contextual factors* such as motives underlying the crime and the

existence of post-mortem abuse; *institutional factors* relating to electoral dynamics, including proximity of the next election for prosecutor, electoral competition, county ideology and prosecutor's race, sex, and party affiliation. The study also addressed the defendant's criminal history, defense attorney expertise, and location of the crime within the three major geographic areas of the state: Piedmont, Coastal, and Mountain regions. Finally, the study featured *demographic characteristics* of the defendant and victim, including race, sex, age, and educational attainment. For detailed analysis of the measures used in the study and how the primary data were obtained, see Unah 2011, 655-658.

Ultimately, the Georgia study conducted by David C. Baldus was effectively replicated in North Carolina by Isaac Unah and John Charlse Boger, reinforcing the durability of Baldus' core findings. Their analysis demonstrated that, even into the 1990s, ostensibly nonlegal factors—most notably race—continued to exert a significant influence on death penalty prosecutions and sentencing outcomes. Cases involving white victims were substantially more likely to result in a death sentence than those involving nonwhite victims, with the most severe outcomes concentrated in cases where a nonwhite defendant killed a white victim. At the same time, when defendants were compared strictly along racial lines, the study did not find statistically significant disparities in how white and nonwhite defendants were treated. For a comprehensive review of the North Carolina death penalty, see Robinson (2011).

Taken together, these findings underscore a critical point: the race of the victim, rather than the race of the defendant, operated as the most powerful predictor of who faced the death penalty. White victims thus occupy a central place in understanding the administration of capital punishment in North Carolina during the 1990s. Any meaningful account of the state's death penalty practices in this period must therefore be framed through this lens.

The Present Study

Considering the overall decline in public perception and use of the death penalty across the United States and in North Caroline, the current study takes a much longer view of capital punishment to determine whether the trends about race reported above remain valid over a much longer time horizon. Within that context, we are interested in comparing the performance of legal and nonlegal factors, including race, in the administration of the death penalty in North Carolina.

Data Sources

We make use of five different data bases in this study: homicides, "aggravated homicides", penalty-phase trials, death sentences, and executions. These data are complete, not a sample, covering all cases since the *Woodson v. North Carolina* decision in 1976. In addition, we make use of a "matched FBI dataset" which consists of the FBI homicides database described immediately below, with cases leading to a death sentence painstakingly matched to their homicide records. This last database is constructed from the others. We explain each database immediately below.

Homicides data come from the FBI Supplemental Homicide Reports (SHR), compiled by Jacob Kaplan and made publicly available through the Inter-university Consortium for Political and Social Research at the University of Michigan (see Kaplan 2023). SHR data includes crimes that are not be eligible for the death penalty, such as second-degree murders, some negligent homicides, and some offenders who are too young to be eligible for the death penalty. Clearly, the most appropriate starting point for this comparison would be "death eligible homicides." However, such a database does not exist. Most likely, a large share of all homicides in North Carolina are theoretically eligible for the death penalty, particularly since the state includes all "willful, deliberate, and premediated" homicides; those committed during the course of a "felony committed or attempted with the use of a deadly weapon"; and since the enumerated aggravators

include whether the capital felony was "was especially heinous, atrocious, or cruel".[3] In sum, while District Attorneys may not bring capital charges in all eligible cases, they have the theoretical possibility of doing so in a large share of all homicides, wherever there is a robbery goes wrong, if that robbery was committed with a deadly weapon. Of course, if the robbery ended in a homicide, one may assume that a deadly weapon of some type was available.

We can use the SHR database to identify a useful surrogate for the concept of "death-eligible" homicides, a subset of those which we will call "aggravated homicides." These have one of the following characteristics. First, the offender had to be old enough to be eligible for the death penalty.[4] Second, one of the following "aggravating" factors had to be present: a) a child victim (under 12 years of age); b) an elderly victim (over 64 years of age); c) multiple victims; d) the SHR notes a simultaneous underlying felony; or e) the weapon noted in the SHR record is something other than a gun. This last element identifies killings by stabbing, strangulation, bare hands, blunt objects, or other weapons that may be likely to lead to more victim suffering. This is an imperfect measurement of what the courts might consider aggravated homicide, but it is the most accurate assessment that can be derived from the data available in the SHR. Generally, this identifies approximately half of all homicides as "aggravated."

Further, we can gather information on a preliminary stage of the death-penalty system, all penalty-phase trials, through the North Carolina Capital Sentencing Project©.[5] Such trials occur

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[3] For the definition of capital crimes, see https://www.ncleg.gov/EnactedLegislation/Statutes/HTML/BySection/Chapter_14/GS_14-17.html. For aggravating factors, see https://www.ncleg.gov/EnactedLegislation/Statutes/HTML/BySection/Chapter_15A/GS_15A-2000.html.

[4] This age was 15 years old until the US Supreme Court decision in *Thompson v. Oklahoma* (1988), moving the age of eligibility to 16, and the later decision in *Roper v. Simmons* (2005) moving it to 18,

[5] The North Carolina Capital Sentencing Project dataset is the copyrighted property of M. Dwayne Smith, Beth Bjerregaard, and Sondra J. Fogel. The project has led to many publications, but for a small sample see Stauffer et al. 2006, Cochran et al. 2017, or Bjerregaard et al. 2017.

only after an individual is found guilty of a capital crime, and they focus solely on the punishment, with two options: life without parole, or death. Thanks to the generosity of the researchers associated with the Capital Sentencing Project, we can make use of these data, which cover the period of 1977 through 2021.

Finally, we make use of a comprehensive database of death sentences imposed since the *Furman* decision compiled over many years by the senior coauthor of this article. This database includes over 500 death sentences imposed since 1972, including information about the offender and the victim(s) in the crime, the dates associated with it, and the final outcome of the death sentence. For fewer than 10 percent of all death sentences, the final outcome is execution. So, we can use this same database for a record of every execution as well. In this article, we focus only on the period since the *Woodson v. North Carolina* decision in 1976, leaving 419 death sentences and 43 executions.[6]

The SHR homicide database includes a record of every homicide incident in the state, with information on the police department that reported the crime, the year, month, and country of the crime, and demographic information about the offender(s) and victim(s). We used this information to match each in the death penalty database with its corresponding entry in the homicides database. This match was not always successful, largely because many homicides are reported with "unknown" offenders, as in cases where the police have yet to make an arrest at the time of their report. Also, our death penalty database includes information on the victims for which the offender received a sentence of death, and sometimes homicides have further victims

[6] The *Woodson* decision invalidated the mandatory death penalty system that was in place in the years immediately following *Furman* (1972). The post-Woodson period can be considered the "modern" death penalty system in the state, so our data are comprehensive on all homicides, aggravated homicides, penalty-phase trials, death sentences, and executions during this time.

for which the offender was not sentenced. In any case, we were able to match the death sentence database with the SHR in 382 of the 419 cases, or 91 percent.

Univariate Comparisons

Table 1 shows a summary of our databases: 29,984 homicides, over 14,000 aggravated homicides, 1,058 penalty-phase trials, 419 death sentences, and 43 executions. For the final three variables, associated with the imposition of the death penalty, the Table also shows the rate of that outcome (trial, sentence, or execution) per 100 aggravated homicides. Overall, penalty-phase trials follow from about 7.5 percent of all aggravated homicides, death sentences are imposed in approximately 3 percent of all aggravated offenders, and executions are carried out in 0.3 percent of all such homicides. (If we were to calculate the rates per 100 homicides, rather than aggravated ones, these percentages would be 3.5, 1.4, and 0.14.) So, we can see that the rates of usage are very low.

The Table then gives the numbers associated with offenders and victims of different demographic characteristics; first for offenders, then for victims, and then for various offender-victim combinations. These comparisons show that while the rates are low, they are not equal. Looking at the rates for death sentences, for example, female offenders see a rate of 0.72, but male offenders see a rate of 4.13, more than four times higher. It is helpful to look at the rates in the Table to get a feel for how they differ by demographic group. It is also useful to look at the raw numbers of homicides and aggravated homicides to see how common each type of homicide is. For example, the most common demographic combination for North Carolina homicides is a black male offender with a black male victim, which has occurred more than 9,000 times since 1976; the second most common is among white male offenders and victims, more than 4,000 occurrences. The Table also shows that most homicides have just a single victim.

Table 1. Summary of North Carolina Homicides, Penalty-Phase Trials, Death Sentences, and Executions

	Numbers					Rates per 100 Agg. Homs		
Category	Homs	Agg. Homs	Penalty-Phase Trials	DS	Execs	Penalty-Phase Trials	DS	Execs
Total by Offenders	29,984	14,160	1,058	419	43	7.47	2.96	0.30
By Offender Gender --								
Female	3,123	1,675	39	12	1	2.33	0.72	0.06
Male	21,697	9,844	1,019	407	42	10.35	4.13	0.43
By Offender Race --								
Black	15,452	6,933	557	202	14	8.03	2.91	0.20
White	8,010	3,983	432	182	27	10.85	4.57	0.68
Other	6,522	3,244	69	35	2	2.13	1.08	0.06
Total by Victims	26,216	12,940	1,306	539	55	10.09	4.17	0.43
By Victim Gender --								
Male	19,780	9,013	769	282	25	8.53	3.13	0.28
Female	6,372	3,873	537	257	30	13.87	6.64	0.77
By Victim Race --								
Black	14,574	6,512	428	161	10	6.57	2.47	0.15
White	10,043	5,604	793	352	42	14.15	6.28	0.75
Other	1,402	690	85	26	3	12.32	3.77	0.43
By Victim Race and Gender --								
Black Male	11,614	4,797	245	76	2	5.11	1.58	0.04
White Male	6,946	3,648	464	189	21	12.72	5.18	0.58
Black Female	2,956	1,712	183	85	8	10.69	4.96	0.47
White Female	3,092	1,951	329	163	21	16.86	8.35	1.08
By Offender-Victim Race --								
White kills Black	674	355	30	10	1	8.45	2.82	0.28
Black kills Black	12,848	5,286	292	100	7	5.52	1.89	0.13
White kills White	7,134	3,512	393	170	26	11.19	4.84	0.74

Black kills White	2,228	1,456	243	96	7	16.69	6.59	0.48
Males kill males of same race --								
Black male kills Black male	9,180	3,442	168	50	2	4.88	1.45	0.06
White male kills White male	4,055	1,910	176	70	10	9.21	3.66	0.52
Males of different races kill White females --								
White male kills White female	1,963	1,070	192	91	15	17.94	8.50	1.40
Black male kills White female	566	404	89	47	4	22.03	11.63	0.99
Legally Relevant: Number of Victims --								
One victim	28,372	12,590	862	322	32	6.85	2.56	0.25
Two victims	1,310	1,278	161	82	10	12.60	6.42	0.78
Three or more victims	302	292	35	15	1	11.99	5.14	0.34

Note: Homs = Homicides, 1976 through 2021; Agg. Homs = “aggravated” homicides by age-eligible offenders (see text for details); DS = death sentences imposed; Execs = Executions carried out.

Table 1 presents a lot of information. The most important is in the last three columns, showing the percentage of homicides leading to various outcomes. Taking the rate of death sentencing as an example for the purpose of illustration, the Table shows that the overall rate is 2.96. Reading down that column shows that this rate differs substantially by gender: female offenders have a rate of just 0.72 percent and males have a higher rate, 4.13 percent. By race of the offender, blacks show a rate of 2.91 and whites 4.57. Looking at victims, the rate is 4.17 overall, but 3.13 for male victims and 6.64 for female victims. By victim race, black victims show a rate of 2.47 percent and white victims, 6.28 percent.

Continuing and still looking at death sentencing rates per 100 homicides, the values for black male victims, white male victims, black female victims, and white female victims are 1.58, 5.18, 4.96, and 8.35. If we state this result as a racial gradient, the death sentencing rate from highest to least is: white female victim, white male victim, black female victim, and black male victim.

Looking at combined offender-victim racial combinations, the death sentencing values are 2.82 in cases where whites kill blacks, 1.89 where black offenders kill black victims, 4.84 where whites kill whites, and 6.59 in those cases where blacks kill whites. Across these configurations, the gradient pattern is reestablished as well, with white lives being valued more than black lives.

Most crimes occur among men, and most occur within racial categories. Looking at those cases where black men kill black men, the rate of death sentencing is 1.45 percent. But when white men kill white men, the rate is almost three times higher, at 3.66 percent.

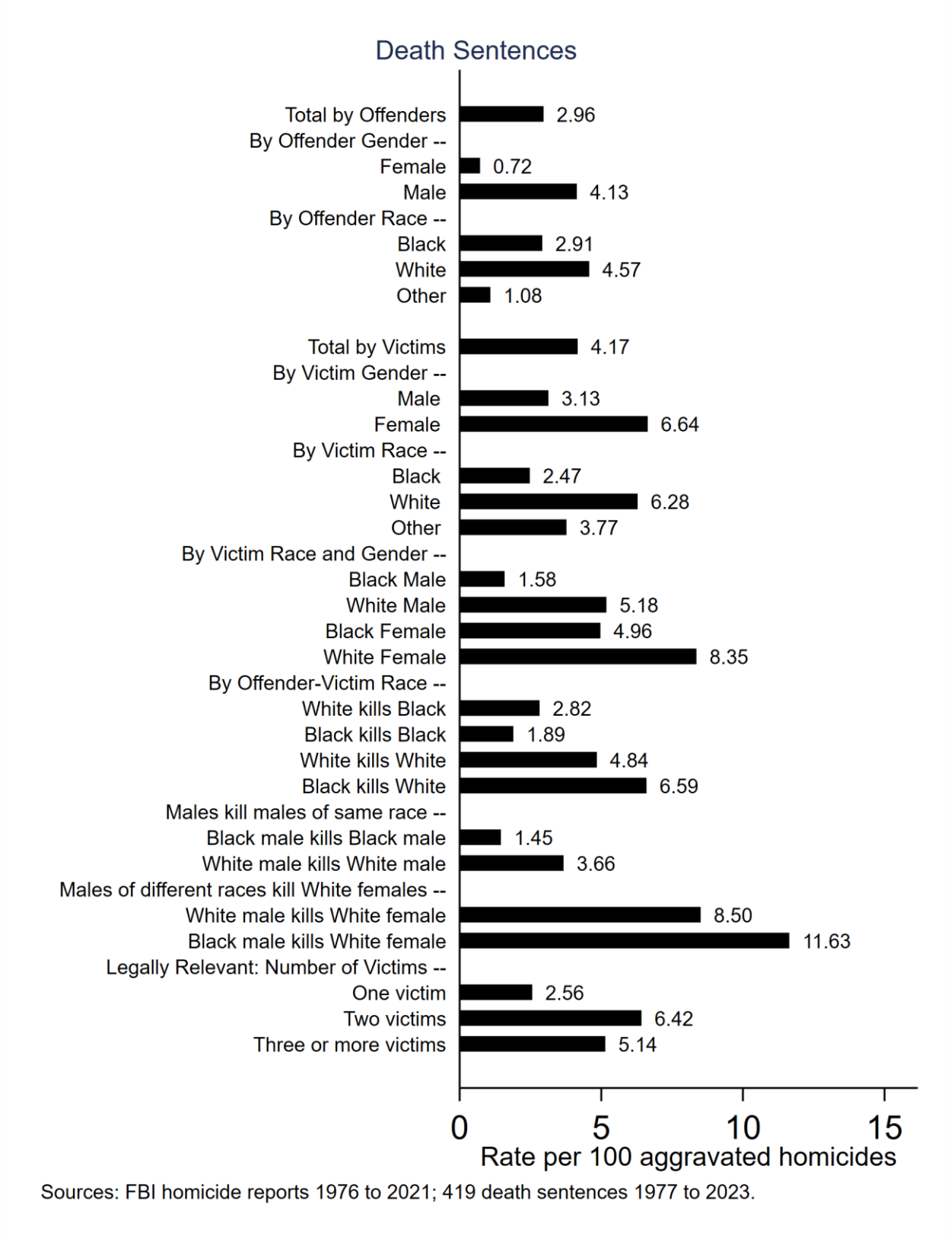
White female victims are in a category of their own, as the 8.35 percent death sentencing rate we saw above already demonstrates. Most killers of white female victims are white men, 63

percent (1,963 out of a total of 3,092, from the "homicides" column of Table 1), and 55 percent of killers in "aggravated" homicides. When these crimes occur, 8.50 percent of the offenders receive a sentence of death. Black males represent a much smaller share of those who kill white female victims (just 566 cases out of 3,092, or 18 percent; 20 percent among the aggravated cases). But 11.63 percent of these offenders receive a death sentence.

Finally, Table 1 shows a legally relevant factor: the number of victims. Just 2.56 percent of those with a single victim receive a sentence of death, as compared to 6.42 percent of those with two victims and 5.14 percent of those with three or more victims.

Figure 1 provides a graphical summary of the large amount of information contained in Table 1. It shows the death-sentencing rate per 100 aggravated homicides, drawing from the column so labeled in Table 1, and presenting the comparisons in the same order as in the Table. To interpret the Figure, imagine a scenario where there were no differences in the odds of a death sentence depending on demographic factors. All the bars would be of the same length. So, where the bars are different, this shows a disparity in the application of the death penalty depending on those demographic characteristics. The greater the difference in length between the bars within a single set of comparisons, the greater the disparity. Figure 1 provides the rates for death sentences; see Appendix B, Figures B-1 and B-2 for equivalent Figures for penalty-phase trials and executions, which show broadly similar patterns.

Figure 1. Death Sentences per 100 Aggravated Homicides, by Offender-Victim Characteristics.



Sources: FBI homicide reports 1976 to 2021; 419 death sentences 1977 to 2023.

Reading from the top, Figure 1 first shows the overall rate of death sentencing by offenders, 2.96 percent, then presents in the same order as just described. The illustration makes clear some stark differences, particularly according to the race and gender of the victims: from 1.58 percent for black males to 8.35 percent for white females.

Offender-victim combinations are quite significant. Whites who kill whites are much more likely to receive a death sentence (4.84 percent) compared to whites who kill blacks (2.82 percent). Among black offenders, this impact is even greater, with just 1.89 percent of their crimes involving black victims leading to death, but 6.59 percent when the victim is white.

Most homicide offenders are male. Table 1 showed that there were 21,697 male and 3,123 female offenders (just over 5,000 homicide offenders were listed as "unknown" in the SHR, but there is no reason to believe their gender breakdown would differ from those who are identified). This means that 87.4 percent of identified offenders are male, and 12.6 percent female. When we look specifically at the crimes committed by males, the racial effects are even more striking. Black males with black male victims are quite unlikely to receive a death sentence; just 1.45 percent. However, if the victim is a white female, the black male offender sees a rate of 11.63, the highest of any combination shown in the Figure. Note that white males who kill white females also have a significantly higher death-sentencing rate (8.50) compared to when they kill white males (3.66). While this shows the impact of victim characteristics while controlling for offender demographics, the increase in rate is much greater for black males than for white males. It is highly significant for both, however. White female victims are strongly associated with death sentencing, no matter the demographics of the offender. But this rate is at its peak when the offender is a black male.

Odds Ratios or "Risk Factors"

Odds ratios are widely used throughout the social sciences, in epidemiology, and in medicine. They allow a comparison of two rates (or odds). Sometimes referred to as "incident rate ratios," "hazard ratios," or "risk factors," they summarize the impact of a given characteristic on the change in odds of a given outcome. For example, how much does obesity increase the odds of a heart attack? If, for example, one group has a rate of heart attacks of 3 percent, and another has a rate of 12 percent, then the ratio of those two rates is 12 / 3 = 4.0. One group has four times the risk of the event of the other. One can calculate such ratios for any comparison that may be of interest.

Table 2 presents odds ratios for relevant comparisons laid out in Table 1 above. In each case, a "comparison group" is compared to a "baseline group" with the two rates drawn from Table 1. Then the last column shows the odds ratio, which is simply the comparison rate divided by the baseline rate.

Table 2. Summary of Death Sentencing Rates and Odds Ratios.

Baseline	Comparison	Baseline Rate	Comparison Rate	Odds Ratio
Female Offender	Male Offender	0.72	4.13	5.74
Black Offender	White Offender	2.91	4.57	1.57
Male Victim	Female Victim	3.13	6.64	2.12
Black Victim	White Victim	2.47	6.28	2.54
Black Male Victims	White Male Victims	1.58	5.18	3.28
Black Male Victims	Black Female Victims	1.58	4.96	3.14
Black Male Victims	White Female Victims	1.58	8.35	5.28
Black kills Black	White kills Black	1.89	2.82	1.49
Black kills Black	White kills White	1.89	4.84	2.56
Black kills Black	Black kills White	1.89	6.59	3.49
Black male kills black male	White male kills white male	1.45	3.66	2.52
White male kills white female	Black male kills white female	8.5	11.63	1.37
Black male kills black male	Black male kills white female	1.45	11.63	8.02
Single victim	Two victims	2.56	6.42	2.51
Single victim	Three or more victims	2.56	5.14	2.01

Note: An odds-ration of 1.00 reflects equality of treatment.

The first comparison shown in Table 2 is between male and female offenders; the rates (drawn from Table 1) are 0.72 for female offenders and 4.13 for males, generating a ratio of 5.74. Male offenders are much more likely to be sentenced to death than female offenders. How much more likely? The odds-ratio of 5.74 gives us that precise value. We see these ratios: 1.57 for white offenders compared to black; 2.12 for those with female victims compared to male; 2.54 for those with white victims compared to black victims, and so on. Only ratios near 1.00 reflect proportionate outcomes across the categories of comparison. We see no such ratios here.

Compared to killings with black male victims, those with white male victims have 3.28 times the odds of a death sentence; those with black female victims, 3.14; and those with white female victims, 5.28 times the odds. Note that black male victims are the most numerous category of homicide victim state-wide. Their killings see very low rates of death sentencing compared to killings of other victims.

The combined effects of offender and victim characteristics are particularly important. In particular, blacks who kill whites are 3.49 times as likely to get death as blacks who kill blacks, and black men who kill white females are more than 8 times as likely to get death than black males who kill black males.

Finally, the last rows in the table refer to a legally relevant factor: The number of victims. This does indeed make an important difference; killers of three or more victims in the same incident are more than 2 times as likely to receive a death sentence than those with a single victim. This ratio is lower, however, than most of the other entries in the Table.

A Focused Comparison

It should be clear that vast disparities affect the North Carolina death penalty system. Crimes with different demographic characteristics have dramatically different odds of progressing

through the system. Nowhere are these differences starker than when we compare cases with different race and gender characteristics of the victims, and when we compare crimes committed by black male offenders but with different types of victims. Table 3 recreates the relevant rates by victim race / gender and for black males with different types of victims, drawn from Table 1.

Table 3. Selected Rates of Death Penalty Outcomes.

Category	Penalty-Phase Trials Rate	Death Sentence Rate	Executions Rate
Total by Victims	10.09	4.17	0.43
Victim Race and Gender --			
Black Male	5.11	1.58	0.04
White Male	12.72	5.18	0.58
Black Female	10.69	4.96	0.47
White Female	16.86	8.35	1.08
Black Male kills Black Male	4.88	1.45	0.06
Black Male kills White Female	22.03	11.63	0.99
Odds Ratios			
Victim Black Male Compared to Victim White Female	3.30	5.28	27.00
Black Male kills Black Male Compared to Black Male kills White Female	4.51	8.02	16.50

Source: Drawn from Table 1.

The first section of Table 3 presents information already displayed in Table 1. If we look at the rate of penalty-phase trials, the value increases as we read down the relevant column in Table 3 from 5.11 percent for black male victims to a value of 16.86 for white female victims. The resulting odds-ratio, 3.30 is presented at the bottom of the Table. When a black male commits a homicide with a black male victim, 4.88 percent of these cases proceed to a penalty-phase trial. When an offender from the same demographic group commits a homicide with a white female victim, there is a 22.03 percent chance that that crime will lead to a penalty-phase trial. The odds ratio associated with those two sets of crimes is 4.51.

When we look at death sentences in the next column, an equivalent analysis shows odds-ratios of 5.28 and 8.02. When we look at executions, the odds-ratios are 27.00 and 16.50.

What does this mean? It means two things. First, vast disparities are apparent across all the stages of the death penalty system. In other contexts, differences of twenty percent, or odds-ratios of 1.20 or greater (or 0.80 or lower), are considered concerning. (For example, in employment law, a twenty-percent disparity, particularly when combined with statistically significant differences, can be grounds for a finding of disparate impact.[7]) The differences apparent here are not of this type at all; these are gaping differences, vast, gigantic differences

[7] The US Department of Justice Civil Rights Division *Title VI Manual* includes this guidance (https://www.justice.gov/crt/fcs/T6Manual7):

"Enforcement agencies have developed guidelines to help identify sufficiently significant disparities in frequently recurring contexts. In employment discrimination cases, where the members of one race or other protected class are selected at four-fifths (or less) the rate of another (80% or less), the EEOC, DOJ, and the Department of Labor have adopted this formula for use in identifying evidence of disparate impact. [17] Some courts have adopted this four-fifths cutoff as a rule of thumb when determining whether the amount of differential impact is sufficient. See, e.g., Clady, 770 F.2d at 1429 (finding that written exam for employment adversely affected Hispanics because they passed at less than four-fifths the rate of white applicants).

However, not every type of disparity lends itself to the use of the four-fifths rule, even with respect to employment decisions. Federal guidelines in employment cases clarify that the four- fifths (80%) rule is not dispositive and smaller differences in selection rates may nevertheless constitute adverse impact. 28 C.F.R. § 50.14(4)(D). Some courts have found a prima facie case where the disparity fell just short of four-fifths but the causation analysis (discussed below) was statistically significant (meaning the disparity is less likely due to chance) and, in the court's view, of practical import. See, e.g., Groves, 776 F. Supp. at 1527–28 (disparate impact established where defendant's evidence revealed black candidates met testing requirement at 82.3% the rate of white candidates, slightly above the 80% mark, but the causation analysis was "overwhelming[ly] statistically significant, showing that "the test itself, and not merely random sampling, has caused the disproportionate exclusion of blacks"); Hill v. Metro. Atlanta Rapid Transit Auth., 591 F. Supp. 125, 129 (N.D. Ga. 1984) (acknowledging that disparate impact could still be established where minorities' selection rate was 81.55% that of white candidates), reversed in part on other grounds, 841 F.2d 1533 (11th Cir. 1988)."

that defy easy explanation or being passed off as statistical flukes. They are, after all, based on a full assessment of every homicide, every penalty-phase trial, every death sentence, and every execution in the state since the creation of the current death penalty system in 1976.

Second, whatever the disparities that are introduced into the system at the stage of the penalty-phase trial, these disparities are amplified, rather than mitigated, in the subsequent stages of the process. There are many reasons to expect differences in the first stage of the process: Some crimes might be investigated to a greater extent by the local police; some crimes might cause the state to be more likely to seek death or maintain a harsher stance in plea bargaining discussions; some crimes might be more likely to lead to a plea or a verdict of guilty of first-degree murder. All these disparities might be questioned, but all would be reflected in the first numbers shown: 3.30 times the odds of a penalty-phase trial depending on the race and gender of the victim, or 4.51 times the odds of that outcome depending on the race and gender of the victim of a black male offender.

The key point is that the disparity does not stop there. Three- to 4.5 times increased odds are highly disparate outcomes. But the jury deliberation stage moves these disparities to 5 to 8 times differences. And the post-sentencing review process magnifies these into differences of 27 and 17 times, respectively. That is, each stage in the process, for these key categories of homicides, adds to the difference we observe in the eventual outcome of the case. These patterns are particularly concerning as they are strong evidence of the consistent impact of race and gender even after the legally relevant factors have already been accounted for.

Aggregate Comparisons

The evidence presented above paints a bleak picture of the North Carolina death penalty system. Rather than being applied relatively equally no matter the demographic characteristics of the

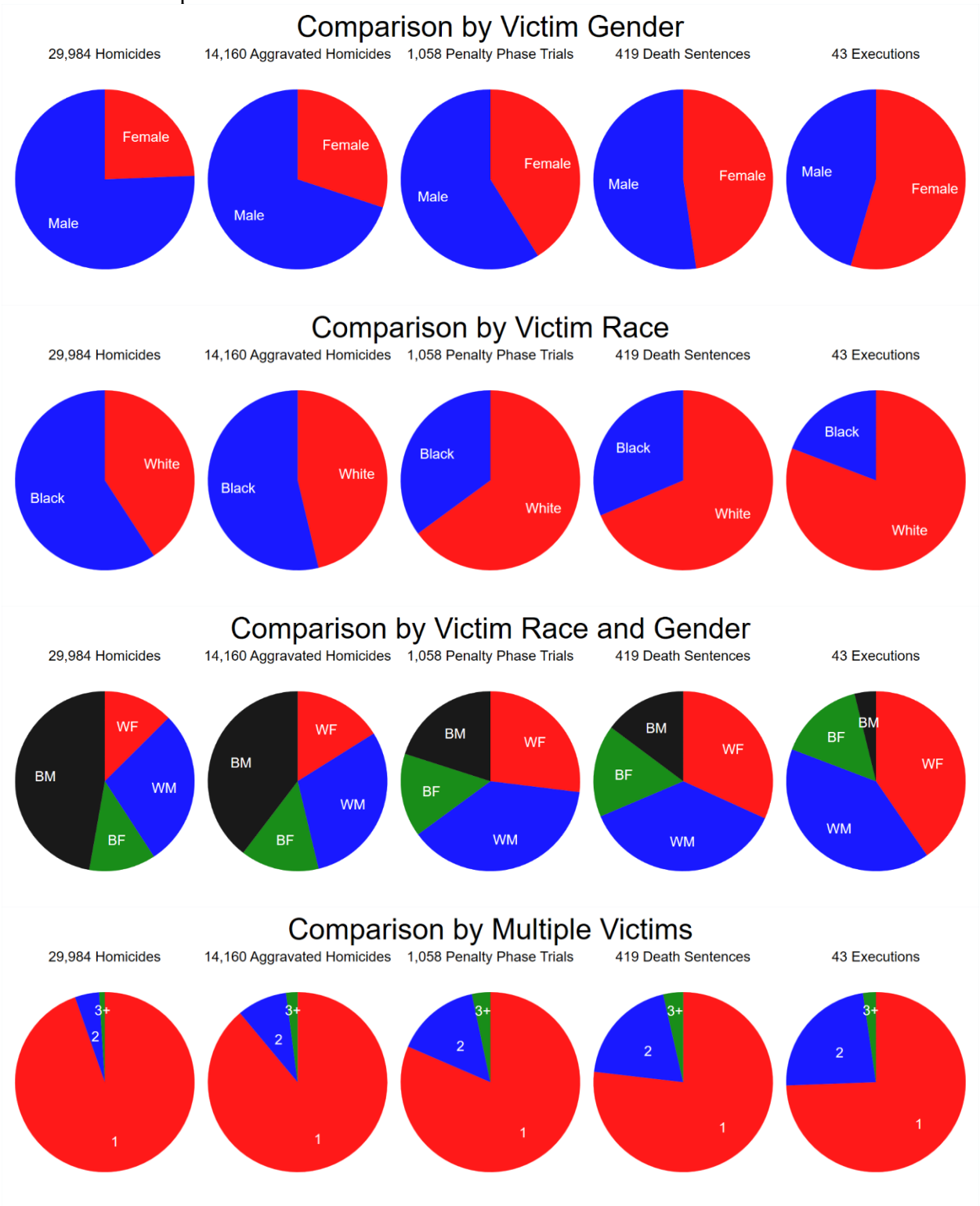
crime, consistent and powerful patterns show its use is much greater when the victims are white, female, or both. The race of the offender must be considered in conjunction with the race of the victim because most homicides occur within racial categories. White offenders are more likely to have white victims. When they do, they have an elevated risk of a death sentence or execution compared to when they have black victims. Black offenders tend to have black victims, and when they do, they have a lower risk of a death sentence or execution. But when black offenders have white victims, they see a dramatic increase in their odds of a death sentence or execution, approximately double the rate for white offenders.

As we move from homicides to penalty-phase trials to death sentences and finally to executions, the demographics are transformed because of the facts just described. These patterns are so powerful that we can visualize them in a series of simple pie charts. Figure 2 shows these comparisons, using the numbers from Table 1. It looks first at victim gender, in the top pane, then victim race, then combined victim race and gender. Finally, the last pane of the Figure shows a legally relevant factor, the number of victims, one, two, or more than two.

For simplicity, the pie-charts in Figure 2 include information only one offenders and victims who were identified as black or white, male or female, and these groups sum in each case to 100 percent of the total. The total numbers of homicides, aggravated homicides, penalty-phase trials, death sentences, and executions are listed in each pane of the Figure, and are drawn from Table 1.

To read the Figure, simply scan from left to right along any given row. This shows how the demographic mix of white, black, male, and female victims is transformed as we move from one stage to the next.

Figure 2. Comparisons of Homicides and Death-Sentences by Victim Race and Gender, and by Presence of Multiple Victims.



Looking at the first pane, victim gender, the Figure shows a dramatic transformation; female victims are relatively rare, just about one-quarter of all homicides and only slightly more among aggravated homicides. But they grow in each stage of the death penalty system until they are a majority of the cases in the final pane, execution cases.

By victim race, the Figure shows a similar transformation; whites are about 40 percent of all homicide victims, and 45 percent of those in aggravated cases, but they progressively increase in share until they are approximately 80 percent of the execution cases By victim race and gender, black males are approximately half of all homicide victims, and almost that share of aggravated cases, but they decline sharply to just 20 percent among penalty-phase trial cases and almost disappear entirely among execution cases. (Table 1 shows that just 2 of 55 victims in cases leading to execution were black males.) By contrast, white men grow significantly in each stage of the process, particularly the death penalty stages. But no group is transformed as much as the white female group, about 10 percent of homicide victims overall, but almost 40 percent of those in execution cases.

Finally, the Figure presents a point of comparison, homicides with single vs. multiple victims. The multiple-victim cases do increase as a share of the total, as one might expect. However, it is important to note that this transformation is not as dramatic as several of the others shown in the same Figure.

The point of this short explanation is to show that the disparities in application of the death penalty described in the previous section are not just small matters. They are so substantial that the racial and gender mix of cases proceeding down the path toward the possible use of the death penalty is altered fundamentally, so much so that it no longer resembles the population of victims of homicides. Rather, it is whiter and more feminine. One would make a grave mistake

in thinking that the mix of victims in cases selected for the death penalty reflects homicide victims in general; it does not.

Multivariate Assessment

With the factors described above in place, we can now turn to our multivariate assessment. Our empirical strategy is identical to that most widely used in the literature: A logistic regression using a range of legally relevant and legally irrelevant factors. The legally relevant factors are such things as statutory aggravators; if these are working as one would expect then they should substantially predict which homicides lead to a punishment of death, and which do not. The legally irrelevant factors are things such as the time period (decade) of the crime or trial, the county where the crime or trial took place, and the race and gender characteristics of the offenders and victims. Once the legally relevant factors are accounted for, then theoretically we should see no consistent effects for these other factors. If we do, then we can conclude that the death penalty is not being driven only by the legally relevant factors, but that idiosyncratic / capricious elements are entering the system (e.g., time period or county) or that racially disparate but legally unjustified factors are affecting outcomes (e.g., race and gender effects). Note that in the univariate comparisons shown in the previous section we consistently saw large effects for such factors. To tell if these are perhaps due to the correlation among these legally relevant factors and the legally relevant ones such as simultaneous felony aggravators, we must conduct a multivariate regression controlling simultaneously for them.

Matching the SHR to the Death Sentence Database

Before presenting our regression results, it is crucial to acknowledge the challenges inherent in the process of matching death sentences to their corresponding SHR records. For example, the death sentences database identifies the county of prosecution, while the FBI database indicates

the county of the law enforcement agency reporting the homicide. Generally, these counties align, given that the responding county often prosecutes the case. Nevertheless, exceptions arise when a law enforcement agency in the neighboring county responds and reports the homicide in the SHR, introducing disparities between the databases. For instance, Cornelius Nobles committed his offense in Dublin County but was prosecuted in Sampson County. In instances of no match or uncertainty, efforts were made to mitigate discrepancies by cross-referencing news articles to confirm the counties involved, as exemplified in the case of Nobles.

In some instances, temporal misalignments were encountered as well. For example, in Leslie Warren's case, a Buncombe County crime from May 1990. In this case, the death sentence database accurately recorded that the crime occurred, in May, but the SHR database noted the discovery of the victim's body in July. To address this, when no homicide in the SHR corresponded with the death sentence year and month, research was conducted to determine when/if victims were promptly found or recovered.

Additionally, issues arose in a few cases with multiple victims, as the SHR sometimes listed victims in separate incidents when, in reality, they were part of the same incident. In these cases, the FBI SHR was modified by consolidating incidents into a single row to prevent duplications. Finally, in one rare scenario, the FBI listed Elwell Barnes as a WF (white female) instead of a BM (black male). This discrepancy arose because Barnes, a black male, was contracted by the victim's white female wife to murder her husband, resulting in the FBI listing her as the suspected offender. Resolving such anomalies necessitated additional research to ensure accurate matching.

Thus, throughout the matching process, precautions were taken to prevent erroneous matches and ensure accurate pairings. Furthermore, we recruited an additional research assistant

to assess the reliability and accuracy of some matches. After an hour of training on the matching process, the student independently matched 270 of the death sentence cases (about half of the entire database) and met weekly over two months to address questions and review the work, finding few errors.

Notwithstanding the challenges, matches were successfully established for 342 of the 419 cases in the death sentences database, more than 80 percent. We then added the "unmatched" death-sentenced cases and used various archival records to extract information on weapons, circumstances, relationship to the victim, simultaneous felonies, and other data that the SHR would have provided if a match had been identified. Therefore, in the end our database includes every death-sentenced individual, and every homicide offender listed in the SHR.

Miscellaneous Exclusions

The matching process above generated a database with 30,065 homicides, with each offender listed separately. We then dropped cases that were missing key bits of information as follows:

- 6,916 cases were listed as "unknown offenders" and had no demographic information. Because we added information about each death-sentenced individual, none of the excluded cases could have been linked to a death sentence.
- 444 individual offenders were excluded because they were too young at the time of their crime to be eligible for the death penalty, following the US Supreme Court decisions in *Thompson v. Oklahoma* on June 29, 1988 (moving the age from 15 to 16), *and Roper v. Simmons* decision on March 1, 2005 (moving the age to 18).
- 687 cases were excluded where the offender was of a race other than black or white. There were insufficient numbers of observations for Native Americans, Asian-Americans, and Latinx individuals for a robust assessment of the impact of these racial categories.
- 963 cases were excluded where victims were of other races, for the same reasons just described.
- 40 cases were missing information on one or more of the variables included in our analysis below. There was no particular pattern to this, but either a demographic element, an age, a time period, or information about the circumstances of the crime was missing.

After these exclusions, we were left with 21,055 observations for analysis.

Analysis and Results

With these careful decisions ensuring high data quality in place, we can move to the results. We follow standard procedure by proposing a logistic regression model where the outcome variable is whether the homicide offender received a death sentence (1) or not (0). The full list of predictor variables is included in Table A-1, in Appendix A. Predictor variables include offender and victim demographics, felony aggravators, weapon, offender-victim relations (e.g., family member or stranger), the time decade of the crime, and the age of the offender. (See Table A-1 for five alternative regression specifications with virtually identical results.) Figure 3 shows the results.

Figure 3. Statistical Drivers of the Death Penalty: Regression Results.

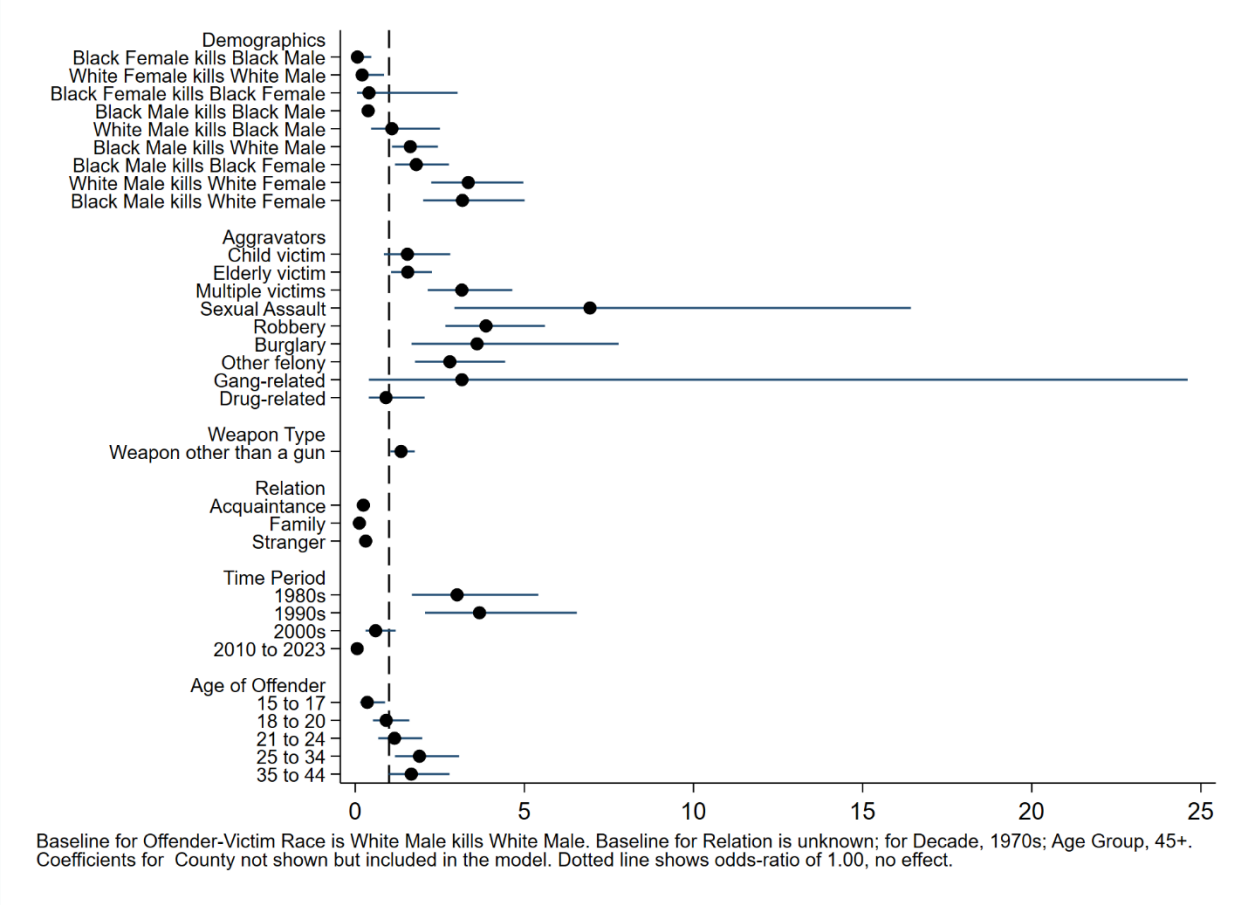


Figure 3 shows the odds-ratios associated with several sets of predictor variables: Demographics, aggravators, whether the weapon was a gun or something else, the relation between the victim and offender, the time period, and the age of the offender. Not shown, but included in the model, is the county of the trial. Appendix Table A-1 shows the full results. Each set of variables can be interpreted with respect to a "reference category" and the odds ratios show the degree to which each variable increases or decreases the odds of a death sentence, compared to that reference category. For Demographics, the reference category is White Male kills White Male; for aggravators, it is no aggravator present; for weapon, it is a gun; for relation, it is unknown; for time-period, it is the 1970s; and for age of offender, it is age 45 and over (see Table A-1 for full details). Table A-2 shows the raw numbers of cases in every category as well as the number and percent that were associated with a death sentence. Certain demographic categories were excluded from the regression because of low numbers of observations; this particularly affected crimes with female offenders and some cross-racial crimes (e.g. White male kills a black female), which occurred fewer than 100 times.

Figure 3 includes a dotted vertical line at the value of 1.0. Variables tending to reduce the odds of a death sentence show a black dot to the left of this line, and those tending to increase the odds of death appear to the right. The horizontal line shows the confidence interval of the estimate. Any estimate for which the confidence-interval line does not cross the dotted line at 1.0 is statistically significant.

Looking first at demographics and recalling that the reference category is crimes among white males, there are essentially three groups of coefficients. The first, crimes with female offenders and crimes among black males, have significantly lower odds of death than the baseline category. A second group has no statistical effect or only a modest one, compared to

the baseline: White male kills black male, black male kills white male, and black male kills black female. A third group, however, has a large, statistically significant, and substantively important impact: crimes with white female victims. The results show a coefficient of 3.3 for white male offenders and 3.2 for black male offenders. Note that this compares to a coefficient of 0.38 for black male – black male cases and 0.06 for those with a black female offender and a black male victim. These numbers mean that, compared to a crime among white males, these black-on-black crimes have only a fraction of the chance of leading to a death sentence, but those with white female victims and male offenders have more than three times the odds.

The second set of coefficients correspond to legally relevant factors: Child victims, elderly victims, multiple victims, cases with a simultaneous sexual assault, robbery, burglary, and so on. Here, we see a dramatic effect for sexual assault cases: the odds ratio in Model 1 is 6.9 and in alternative specifications in Table A-1 it ranges consistently from 5.8 to 7.2. Clearly, this is a substantial driver, but we should also note that there are only 73 homicides out of more than 21,000 in the database with this aggravator, so the confidence interval of this variable is quite high. Robberies, burglaries, and cases with multiple victims are also substantially more likely to lead to a death sentence, with coefficients above 3.0, meaning that they are three times as likely as a case with no aggravators to lead to a death sentence.

Crimes committed with a weapon other than a gun are approximately 36 percent more likely to lead to a death sentence, a statistically significant effect. These crimes typically involve a stabbing, a strangulation, killing with bare hands or by a blunt object and may be seen as likely to inflict more suffering on the victim than cases deriving from a gunshot.

Crimes where the relationship between the victim and the offender is listed as “unknown” when the police report the case to the FBI are substantially more likely to lead to a death

sentence than crimes among acquaintances, family members, or strangers. Stranger-crimes, however, are more likely than the others to lead to a death sentence.

Next, the Figure shows a significant effect for time-period during which the crime occurred. Looking simply at a breakdown by decade (1976 to 1980, the 1980s, the 1990s, the 2000s, and the period from 2010 to 2023), crimes in the 1980s and 1990s were substantially more likely to lead to a death sentence. Crimes since 2010 show an odds-ratio of just 0.06, indicating just six percent the odds of a death sentence compared to crimes in the 1970s. For the 1990s, that odds-ratio is 3.7. So, the time period matters dramatically.

Finally, the age of the offender matters. For offenders aged under 18 (excluding those who were legally not eligible for a death sentence under the relevant US Supreme Court decisions of Thompson v. Oklahoma (1988, moving the age of eligibility from 15 to 16) and Roper v. Simmons (2005, moving it to 18), odds of a death sentence are much lower than the baseline group, those aged 45 or older, approximately 35 percent the odds, or 65 percent lower. These odds-ratios increase as the offender moves into the older age groups, peaking with those aged 25 to 24, where the odds-ratio is a statistically significant 1.9, or 90 percent more likely than an older offender.

Overall, these results present strong evidence that legally relevant factors do in fact matter. Homicides committed during the simultaneous commission of another felony crime are indeed more likely to lead to a death sentence, as are crimes with multiple victims. On the other hand, among those felonies where there are at least 500 occurrences in the database, none shows a rate of death sentencing as high as 10 percent (see Table A-2). Even cases involving sexual assault, the strongest statistical correlate with death sentencing, shows just 23 of 73 cases leading

to death, or 32 percent of the cases. In other words, in 68 percent of the cases involving a homicide with a sexual assault, the offender avoided the death penalty.

It is also clear from these results that legally irrelevant factors make a big difference. The time-period of the crime makes a substantial difference; and offender aged 21 to 34 is much more likely to receive a death sentence than those in any other age group; and demographics matter. Figure 4 shows the predicted probability of a death sentence using the results from Figure 3 and holding all the other variables at their mean or median values. Thus, it can be interpreted as the odds of a death sentence for crimes with different offender-victim combinations, in otherwise identical crimes.

Figure 4. Predicted Probability of a Death Sentence, by Offender-Victim Race and Gender Categories.

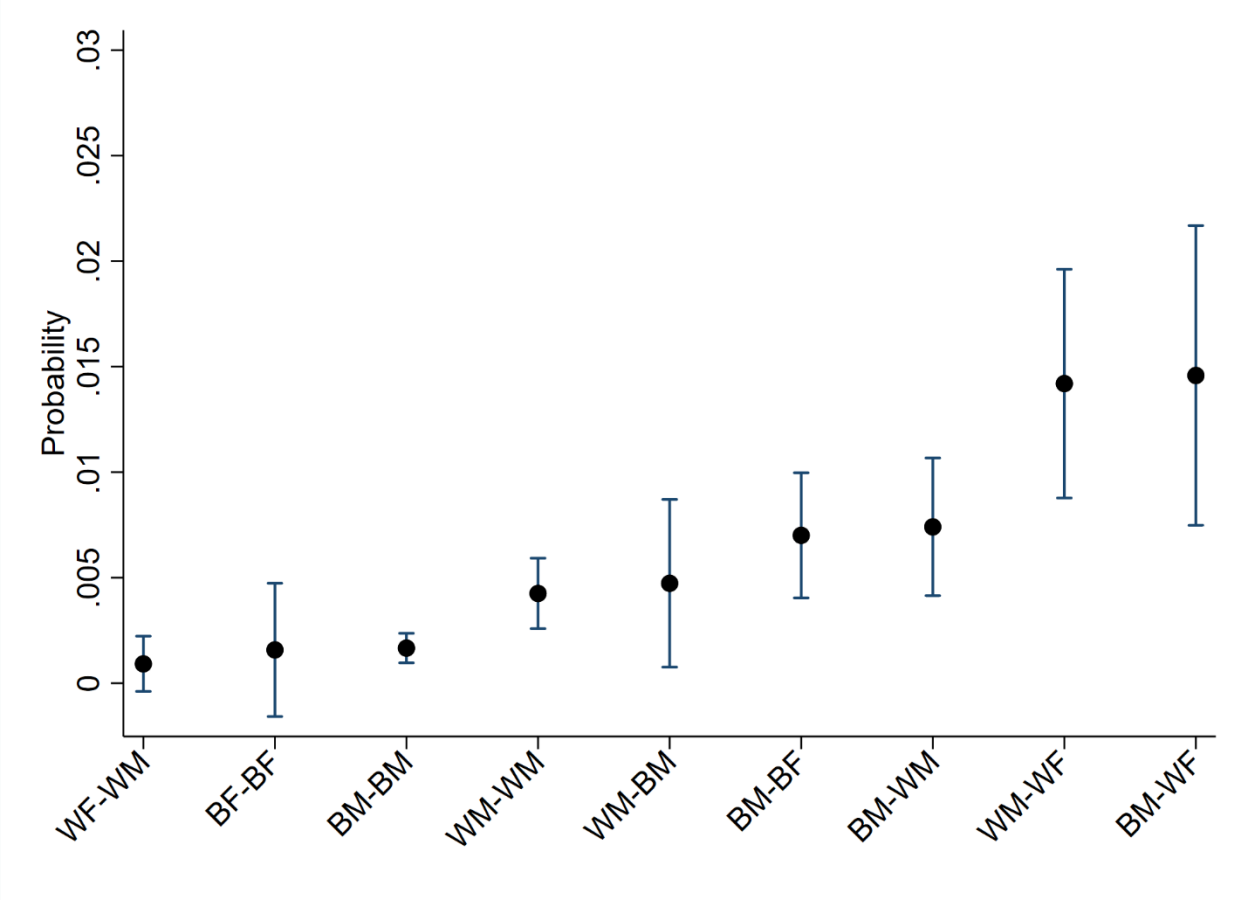


Figure 4 shows that when white females commit homicide with a white male victim, or when black females kill another black female, the odds of a death sentence are essentially nil. They are also very low with the offender and victim are both black males. They increase sharply, to about 0.5 percent, when the offender and victim are both white males. They move to substantially higher values, about 1.5 percent, when the offender is male and the victim is a white female.[8]

Conclusion

We have provided comprehensive data on all homicides, penalty-phase trials, death sentences, and executions in North Carolina since 1976, showing massive and troubling disparities with regards to race and gender. Then we have explored whether these bi-variate differences can be "explained away" by legally relevant factors. They cannot. Both legally relevant and legally irrelevant factors matter. Those who kill three victims rather than just one are indeed more likely to receive a sentence of death. But when we control for these legally relevant factors in a multivariate logistic regression model predicting who gets death and who does not, race, gender, time period, and geography remain strong predictors. Each of these suggests an unfair, capricious or discriminatory pattern of application of the death penalty and therefore an unconstitutional application of the ultimate punishment.

[8] The overall rate of death sentencing, across all cases, is 1.81 percent (see Table A-2). But those are clustered in certain categories, particularly those with underlying felonies and crimes in the 1990s. The predicted values presented in Figure 2 are lower because they are calculated based on all other values being at their mean or median values.

References

Baldus, David C. 1991. "Death Penalty Proportionality Review Project: Final Report to the New Jersey Supreme Court." https://www.ojp.gov/ncjrs/virtual-library/abstracts/death-penalty-proportionality-review-project-final-report-new.

Baldus, David et al. 2002. Arbitrariness and Discrimination in the Administration of the Death Penalty: A Legal and Empirical Analysis of the Nebraska Experience (1973-1999)." *Nebraska Law Review*, 81:486---

Barnes, Katherine, David Sloss, and Stephen Thaman. 2009. "Place Matters (Most): An Empirical Study of Prosecutorial Decision-Making in Death Eligible Cases." *Arizona Law Review* 51:305---

Baumgartner, Frank. 2010. "Rates of reversals in the North Carolina death penalty." March 22. http://www.unc.edu/~fbaum/Innocence/NC/Baumgartner_NC_Death_Reversals-March-20-2010.pdf

Bjerregaard, Beth E., M. Dwayne Smith, John K. Cochran, and Sondra J. Fogel. 2017. A Further Examination of the Liberation Hypothesis in Capital Murder Trials. *Crime and Delinquency* 63: 1017–1038.

Brace, Paul and Brent D. Boyea. 2008. "State Public Opinion, the Death Penalty, and the Practice of Electing Judges." *American Journal of Political Science*, 52:360-72

Cochran, John K., Wyatt Brown, Jocelyn Camacho, Wesley G. Jennings, M. Dwayne Smith, Beth Bjerregaard, and Sondra J. Fogel. 2017. "Overkill? An Examination of Comparatively Excessive Death Sentences in North Carolina, 1990–2010." *Justice Quarterly* 34, 2: 297-323. DOI: 10.1080/07418825.2016.1162322

Cook, Philip J. 2019. "Potential Savings from Abolition of the Death Penalty in North Carolina," *American Law and Economics Review,* 11 (2): 498–529.

Davis, Angela J. 2008. "The American Prosecutor: Power, Discretion, and Misconduct." *Criminal Justice* 23: https://digitalcommons.wcl.american.edu/facsch_lawrev/1396

Donahue III, John J. 2014. "An Empirical Evaluation of the Connecticut Death Penalty System Since 1973: Are There Unlawful Racial, Gender, and Geographic Disparities?" *Journal of Empirical Legal Studies* 11: 637-696

Edmonson v. Leesville Concrete Company, 500 U.S. 614, 628 (1991)

Gross, Samuel R. and Robert Mauro. 1984. "Patterns of Death: An Analysis of Racial Disparities in Capital Sentencing and Homicide Victimization." *Stanford Law Review*, 37:27---

Huber, Gregory A., and Sanford C. Gordon. 2004. "Accountability and Coercion: Is Justice Blind When It Runs for Office?" *American Journal of Political Science* 48(2): 247–63.

Kaplan, Jacob. 2023. *Jacob Kaplan's Concatenated Files: Uniform Crime Reporting (UCR) Program Data: Supplementary Homicide Reports, 1976-2021*. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2023-04-02. https://doi.org/10.3886/E100699V12

Kovandzic, T. V., L. M. Vieraitis, and D. P. Boots. 2009. "Does the Death Penalty Save Lives?" *Criminology & Public Policy*, 8(4): 803-43

Kotch, Seth. 2019. *Lethal State: A History of the Death Penalty in North Carolina (Justice, Power, and Politics),* Chapel Hill, NC: University of North Carolina Press

Kremling, J., Smith, M., Cochran, J., Bjeregaard, B., & S. Fogel (2007). The role of mitigating factors in capital sentencing before and after McKoy v. North Carolina. *Justice Quarterly*, 24(3): 357--

Liebman, J., Fagan, J., Rifkind, S., & V. West (2000). "A Broken System: Error Rates in Capital Cases. State Report Card. North Carolina, 1973-1995."

http://www2.law.columbia.edu/instructionalservices/liebman/liebman/Liebman%20Study/docs/2/northcarolina.pdf

Lyman, Tim, Frank R. Baumgartner, and Glenn L. Pierce. 2021. Race and Gender Disparities in Capitally-Charged Louisiana Homicide Cases, 1976-2014. *Southern University Law Review* 49, 1: 153–208.

Paternoster, Raymond, Robert Brame, S. Bacon, and A Ditchfield. 2004. "Justice by geography and Race: The Administration of the Death Penalty in Maryland, 1978-1999" *Margins: University of Maryland Law Journal of Race, Religion, Gender & Class*, 4: 1–97.

Paternoster, Raymond and Robert Brame. 2008. "Reassessing Race Disparities in Maryland Capital Cases," *Criminology* 46:971-1008.

Pierce, Glenn L., and Michael L. Radelet. 2005. The Impact of Legally Inappropriate Factors on Death Sentencing For California Homicides, 1990–1999. *Santa Clara Law Review* 49: 1–31.

Radelet, Michael L., and Glenn L. Pierce. 1991. Choosing Those Who Will Die: Race and the Death Penalty in Florida. *Florida Law Review* 43, 1: 1–34.

Robinson, Matthew D. 2011. "The Death Penalty in North Carolina: A Summary of the Data and Scientific Studies." A Policy Report Prepared for the North Carolina General Assembly.

Songer, Michael J., and Isaac Unah. 2006. The Effect of Race, Gender, and Location on Prosecutorial Decisions to Seek the Death Penalty in South Carolina. *South Carolina Law Review* 58: 161–210.

Stauffer, Amy R., M. Dwayne Smith, John K. Cochran, Sondra J. Fogel, and Beth Bjerregaard. 2006. The Interaction between Victim Race and Gender on Sentencing Outcomes in Capital Murder: A Further Exploration. *Homicide Studies* 10, 2: 98–117.

Unah, Isaac 2009. Choosing Those Who Will Die: The Effect of Race, Gender, and Law in Prosecutorial Decision to Seek the Death Penalty in Durham County, North Carolina." *Michigan Journal of Race & Law,* 15 (1): 135-79

Unah, Isaac. 2011. "Empirical Analysis of Race and the Process of Capital Punishment in North Carolina." *Michigan State Law Review*, 2011: 609-58

Unah, Isaac and John Charles Boger, 2001. "Preliminary Report on the Findings of the North Carolina Death Penalty Study" https://www.researchgate.net/profile/Isaac-Unah/publication/238789444_PRELIMINARY_REPORT_ON_THE_FINDINGS_OF_THE_NORTH_CAROLINA_DEATH_PENALTY_STUDY_2001/links/02e7e53c3e19e1b3dd000000/PRELIMINARY-REPORT-ON-THE-FINDINGS-OF-THE-NORTH-CAROLINA-DEATH-PENALTY-STUDY-2001.pdf

Appendix A. Alternative Regression Model Specifications

Table A-1 presents the main regression results from our study. The first model, labeled "Baseline", is the model used throughout the discussion in the main text. The subsequent models are variations on this model demonstrating its robustness to alternative specifications. Of particular interest in these alternative models is whether the different specifications cause the estimated effects of the other variables to change substantially. The Table presents the race-and gender-related variables first and then presents the legally relevant variables. Looking for example at the row for "Any Child Victim" (or other variables listed immediately below this entry), scanning the eyes across the columns from left to right makes clear whether the coefficients generally remain stable or if they change substantially as the model specification is altered. The second question of interest is the number of cases included in the model and the goodness of fit, statistics that are shown at the bottom of the table. A higher Adjusted R-squared value indicates a better statistical fit. The best statistical fit is associated with the baseline model.

Model 2 differs from Model 1 by presenting estimates for White and Black offenders and for white male, white female, and non-white female victims separately, rather than in the different offender-victim combinations as in Model 1. This model shows results generally consistent with those from Model 1, particularly noting the large effect for white victims, female victims, and white-female victims.

Model 3 diverges from Model 2 by including variables for victim gender (white and non-white female victims listed separately, with male victims of any race as the baseline) and for the four offender-victim racial categories (black kills black as the baseline). These results again are consistent with the main model.

Model 4 uses the same specification as Model 1 but excludes those homicides with the sexual assault aggravator. Model 1 showed a large effect of this variable on the likelihood of a

death sentence. Model 4 shows similar results for all the variables in the model while excluding all of these cases. Note, however, that the N declines slightly reflecting the excluded cases, and the Adjusted R-squared moves from .28 to .272. Clearly, Model 1 is preferred to Model 4, but the coefficients produced in Model 1 are almost identical to those from Model 4. The sexual assault aggravator by itself is not driving the results in Model 1.

Model 5 excludes the controls for county, and Model 6 excludes county as well as the age of the offender. The number of observations moves up from 19,670 to 20,983, a difference of 1,313. These cases are dropped because, as the Table indicates, many counties are dropped when county is included in the model. This is because many counties have handed down no death sentences, so the regression coefficient for that county cannot be estimated and the cases are excluded. Model 5 therefore has a higher N than Model 1; however, it has a significantly lower R-squared value, .242 rather than .280. Model 6 shows an even further decline in the R-squared value, to .231.

These comparisons show two things: First, Model 1 is the preferred model based on goodness of fit and understanding the meaning of the offender-victim race and gender combinations. Second, the results presented here are highly robust, with no substantively meaningful changes in any coefficients stemming from the different specifications across six models.

Table A-1. Regression Results: Alternative Model Specifications.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Baseline	Offender and Victim Separately	Offender-Victim Race	Sex Assault Cases Excluded	Drop County	Drop Age Groups
Offender Race: Black		(Reference category)				
Offender Race: White		0.971				
		(0.165)				
Black Male Victim		(Reference category)				
White Male Victim		2.222***				
		(0.412)				
Male Victim			(Reference category)			
White Female Victim		6.278***	2.770***			
		(1.197)	(0.447)			
Nonwhite Female Victim		3.665***	4.284***			
		(0.796)	(0.977)			
Black kills Black			(Reference category)			
White kills Black			2.092			
			(0.809)			
White kills White			2.889***			
			(0.596)			
Black kills White			4.202***			
			(0.956)			
White Male kills White Male	(Reference category)			(Reference category)	(Reference category)	(Reference category)
Black Male kills Black Male	0.383***			0.390***	0.380***	0.371***

	(0.0770)			(0.0789)	(0.0731)	(0.0712)
Black Male kills White Male	1.629*			1.648*	1.527*	1.472*
	(0.337)			(0.342)	(0.301)	(0.287)
Black Male kills Black Female	1.805**			1.717*	1.756**	1.813**
	(0.394)			(0.385)	(0.363)	(0.373)
Black Male kills White Female	3.169***			3.364***	3.048***	2.814***
	(0.739)			(0.792)	(0.671)	(0.615)
White Male kills Black Male	1.085			1.119	1.125	1.119
	(0.463)			(0.478)	(0.462)	(0.457)
White Male kills White Female	3.342***			3.359***	3.223***	3.282***
	(0.676)			(0.692)	(0.628)	(0.634)
Black Female kills Black Male	0.0649**			0.0651**	0.0694**	0.0731**
	(0.0660)			(0.0663)	(0.0702)	(0.0739)
Black Female kills Black Female	0.407			0.450	0.359	0.359
	(0.417)			(0.459)	(0.365)	(0.365)
White Female kills White Male	0.204*			0.208*	0.208*	0.224*
	(0.149)			(0.151)	(0.151)	(0.162)
Any Child Victim	1.542	1.298	1.355	1.174	1.552	1.574
	(0.472)	(0.395)	(0.411)	(0.403)	(0.452)	(0.453)
Any Elderly Victim	1.551*	1.528*	1.585*	1.622*	1.556*	1.553*
	(0.300)	(0.295)	(0.303)	(0.314)	(0.289)	(0.284)
Multiple Victims	3.152***	2.085***	2.917***	3.136***	2.818***	2.990***
	(0.623)	(0.448)	(0.561)	(0.622)	(0.518)	(0.544)
Felony: Sexual Assault	6.939***	7.233***	6.753***	1	5.806***	5.758***
	(3.051)	(3.127)	(2.961)		(2.362)	(2.309)
Felony: Robbery	3.866***	4.112***	3.915***	3.828***	3.702***	3.486***
	(0.734)	(0.776)	(0.741)	(0.729)	(0.671)	(0.622)
Felony: Burglary	3.601**	3.817***	3.360**	3.526**	3.371**	3.203**
	(1.417)	(1.489)	(1.329)	(1.392)	(1.251)	(1.182)

Felony: Other	2.798***	2.993***	2.698***	2.796***	2.576***	2.398***
	(0.656)	(0.693)	(0.630)	(0.658)	(0.569)	(0.524)
Felony: Gangs	3.154	2.670	2.872	3.482	3.054	2.215
	(3.306)	(2.798)	(3.035)	(3.635)	(3.156)	(2.288)
Felony: Drugs	0.908	1.027	0.995	0.914	0.999	0.961
	(0.378)	(0.423)	(0.412)	(0.380)	(0.401)	(0.383)
Weapon: Gun	(Reference category)	(Reference category)	(Reference category)	(Reference category)	(Reference category)	(Reference category)
Weapon: Not a Gun	1.355*	1.358*	1.314*	1.370*	1.295*	1.373*
	(0.182)	(0.181)	(0.176)	(0.185)	(0.167)	(0.175)
Relation: Unknown	(Reference category)	(Reference category)	(Reference category)	(Reference category)	(Reference category)	(Reference category)
Relation: Acquaintance	0.241***	0.227***	0.240***	0.248***	0.284***	0.299***
	(0.0435)	(0.0405)	(0.0431)	(0.0452)	(0.0484)	(0.0506)
Relation: Family	0.122***	0.112***	0.120***	0.127***	0.151***	0.162***
	(0.0286)	(0.0254)	(0.0275)	(0.0299)	(0.0338)	(0.0357)
Relation: Stranger	0.310***	0.332***	0.303***	0.307***	0.365***	0.361***
	(0.0657)	(0.0699)	(0.0647)	(0.0661)	(0.0716)	(0.0704)
Decade: Before 1980	(Reference category)	(Reference category)	(Reference category)	(Reference category)	(Reference category)	(Reference category)
Decade: 1980s	3.011***	2.968***	2.965***	2.762***	2.922***	3.043***
	(0.900)	(0.881)	(0.882)	(0.827)	(0.858)	(0.892)
Decade: 1990s	3.674***	3.528***	3.548***	3.449***	3.407***	3.391***
	(1.084)	(1.036)	(1.043)	(1.015)	(0.985)	(0.979)
Decade: 2000s	0.602	0.592	0.580	0.565	0.635	0.648
	(0.211)	(0.207)	(0.203)	(0.198)	(0.217)	(0.221)
Decade: 2010 or later	0.0568***	0.0511***	0.0516***	0.0535***	0.0648***	0.0674***

	(0.0311)	(0.0281)	(0.0283)	(0.0293)	(0.0349)	(0.0362)
Offender Age: 15 to 17**	0.356*	0.377*	0.345*	0.305*	0.357*	
	(0.164)	(0.173)	(0.159)	(0.149)	(0.161)	
Offender Age: 18 to 20	0.914	0.921	0.882	0.926	0.931	
	(0.261)	(0.261)	(0.250)	(0.265)	(0.258)	
Offender Age: 21 to 24	1.162	1.153	1.133	1.156	1.148	
	(0.316)	(0.311)	(0.306)	(0.317)	(0.302)	
Offender Age: 25 to 34	1.899**	1.847*	1.816*	1.938**	1.780*	
	(0.465)	(0.448)	(0.442)	(0.475)	(0.423)	
Offender Age: 35 to 44	1.659	1.606	1.596	1.687*	1.649	
	(0.438)	(0.422)	(0.419)	(0.446)	(0.423)	
Offender Age: 45 or older	(Reference category)	(Reference category)	(Reference category)	(Reference category)	(Reference category)	(Reference category)
37001 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37003 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37005 (fips code)	4.401	3.835	3.934	4.368		
	(5.392)	(4.654)	(4.751)	(5.352)		
37007 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37009 (fips code)	0.524	0.641	0.571	0.524		
	(0.643)	(0.771)	(0.693)	(0.642)		
37011 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37013 (fips code)	2.254	2.006	2.139	2.264		
	(1.709)	(1.501)	(1.603)	(1.718)		
37015 (fips code)	0.730	0.652	0.611	0.848		

	(0.683)	(0.632)	(0.586)	(0.802)		
37017 (fips code)	0.388	0.520	0.474	0.418		
	(0.341)	(0.447)	(0.410)	(0.366)		
37019 (fips code)	1.154	1.169	1.240	1.151		
	(0.993)	(1.006)	(1.066)	(0.992)		
37021 (fips code)	1.300	1.309	1.406	1.344		
	(0.746)	(0.746)	(0.796)	(0.777)		
37023 (fips code)	1.431	1.456	1.467	1.437		
	(0.983)	(1.000)	(1.002)	(0.988)		
37025 (fips code)	0.963	0.905	0.906	1.054		
	(0.629)	(0.590)	(0.590)	(0.686)		
37027 (fips code)	0.220	0.208	0.218	0.254		
	(0.246)	(0.232)	(0.243)	(0.284)		
37029 (fips code)	17.21**	14.79**	15.25**	17.12**		
	(16.81)	(14.13)	(14.60)	(16.66)		
37031 (fips code)	0.825	0.847	0.873	0.814		
	(0.921)	(0.942)	(0.971)	(0.908)		
37033 (fips code)	1.261	1.531	1.485	1.576		
	(1.430)	(1.727)	(1.675)	(1.771)		
37035 (fips code)	0.719	0.777	0.780	0.718		
	(0.533)	(0.575)	(0.576)	(0.532)		
37037 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37039 (fips code)	1.951	1.573	1.624	1.974		
	(2.217)	(1.805)	(1.843)	(2.244)		
37041 (fips code)	4.719	3.596	4.100	4.643		
	(5.304)	(4.023)	(4.594)	(5.221)		
37043 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37045 (fips code)	0.327	0.299	0.321	0.355		

	(0.368)	(0.334)	(0.358)	(0.399)		
37047 (fips code)	0.573	0.608	0.582	0.567		
	(0.437)	(0.461)	(0.441)	(0.434)		
37049 (fips code)	1.345	1.161	1.148	1.364		
	(1.013)	(0.876)	(0.870)	(1.028)		
37051 (fips code)	0.743	0.680	0.670	0.787		
	(0.396)	(0.362)	(0.358)	(0.421)		
37053 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37055 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37057 (fips code)	0.954	0.945	1.017	0.964		
	(0.626)	(0.618)	(0.661)	(0.633)		
37059 (fips code)	6.236*	5.957*	6.281*	6.197*		
	(4.543)	(4.342)	(4.557)	(4.511)		
37061 (fips code)	2.207	2.181	2.157	1.735		
	(1.548)	(1.519)	(1.502)	(1.316)		
37063 (fips code)	0.655	0.633	0.679	0.672		
	(0.402)	(0.387)	(0.416)	(0.414)		
37065 (fips code)	2.857	2.330	2.635	2.831		
	(2.001)	(1.650)	(1.869)	(1.988)		
37067 (fips code)	1.327	1.301	1.409	1.334		
	(0.684)	(0.672)	(0.723)	(0.688)		
37069 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37071 (fips code)	1.014	0.975	1.025	1.037		
	(0.565)	(0.542)	(0.569)	(0.579)		
37073 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37075 (fips code)	8.219	9.136	9.626	8.004		

	(10.38)	(11.36)	(12.03)	(10.13)		
37077 (fips code)	1.319	1.317	1.406	1.304		
	(1.156)	(1.141)	(1.225)	(1.145)		
37079 (fips code)	0.999	1.056	1.167	1.002		
	(1.159)	(1.225)	(1.346)	(1.161)		
37081 (fips code)	0.630	0.652	0.661	0.630		
	(0.347)	(0.358)	(0.363)	(0.348)		
37083 (fips code)	3.108	2.983	3.005	2.775		
	(1.803)	(1.731)	(1.754)	(1.650)		
37085 (fips code)	1.030	1.070	1.107	1.083		
	(0.713)	(0.737)	(0.760)	(0.750)		
37087 (fips code)	0.427	0.346	0.524	0.415		
	(0.559)	(0.465)	(0.669)	(0.545)		
37089 (fips code)	0.522	0.509	0.590	0.513		
	(0.463)	(0.454)	(0.516)	(0.456)		
37091 (fips code)	0.888	0.824	0.973	0.926		
	(1.008)	(0.934)	(1.098)	(1.050)		
37093 (fips code)	1.454	1.747	1.537	1.425		
	(1.182)	(1.392)	(1.255)	(1.163)		
37095 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37097 (fips code)	0.508	0.506	0.568	0.507		
	(0.435)	(0.433)	(0.482)	(0.434)		
37099 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37101 (fips code)	2.112	2.268	2.204	2.071		
	(1.180)	(1.259)	(1.221)	(1.160)		
37103 (fips code)	5.067	3.442	3.655	4.865		
	(6.073)	(4.072)	(4.312)	(5.835)		
37105 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		

37107 (fips code)	0.705	0.697	0.763	0.701		
	(0.603)	(0.594)	(0.648)	(0.600)		
37109 (fips code)	0.708	0.626	0.674	0.715		
	(0.794)	(0.701)	(0.754)	(0.801)		
37111 (fips code)	1.323	1.449	1.386	1.319		
	(1.187)	(1.284)	(1.239)	(1.182)		
37113 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37115 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37117 (fips code)	0.956	1.128	0.982	0.930		
	(1.088)	(1.279)	(1.117)	(1.059)		
37119 (fips code)	0.527	0.513	0.542	0.536		
	(0.274)	(0.266)	(0.281)	(0.279)		
37121 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37123 (fips code)	0.522	0.464	0.565	0.513		
	(0.586)	(0.522)	(0.631)	(0.577)		
37125 (fips code)	0.757	0.874	0.836	0.778		
	(0.565)	(0.648)	(0.624)	(0.581)		
37127 (fips code)	0.362	0.357	0.367	0.363		
	(0.248)	(0.244)	(0.252)	(0.250)		
37129 (fips code)	2.076	1.990	2.093	2.247		
	(1.190)	(1.134)	(1.194)	(1.283)		
37131 (fips code)	7.274**	6.889**	7.708**	7.175**		
	(4.638)	(4.368)	(4.906)	(4.581)		
37133 (fips code)	0.859	0.788	0.824	0.874		
	(0.591)	(0.543)	(0.567)	(0.602)		
37135 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		

37137 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37139 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37141 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37143 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37145 (fips code)	1.638	1.862	1.689	1.683		
	(1.439)	(1.612)	(1.483)	(1.483)		
37147 (fips code)	0.877	0.901	0.935	0.778		
	(0.553)	(0.565)	(0.585)	(0.511)		
37149 (fips code)	1.323	1.484	1.559	1.397		
	(1.544)	(1.734)	(1.797)	(1.620)		
37151 (fips code)	2.084	1.989	1.972	1.924		
	(1.272)	(1.209)	(1.197)	(1.200)		
37153 (fips code)	1.057	1.149	1.095	1.045		
	(0.734)	(0.792)	(0.757)	(0.727)		
37155 (fips code)	1.741	1.828	1.915	1.445		
	(1.035)	(1.083)	(1.132)	(0.907)		
37157 (fips code)	1.942	2.000	1.985	1.972		
	(1.205)	(1.222)	(1.220)	(1.222)		
37159 (fips code)	0.960	0.895	0.876	0.929		
	(0.619)	(0.571)	(0.560)	(0.601)		
37161 (fips code)	1.208	1.186	1.176	1.165		
	(0.916)	(0.902)	(0.872)	(0.886)		
37163 (fips code)	0.589	0.605	0.596	0.588		
	(0.654)	(0.671)	(0.660)	(0.653)		
37165 (fips code)	1.417	1.392	1.366	1.427		

	(1.219)	(1.190)	(1.173)	(1.228)		
37167 (fips code)	0.922	0.966	0.944	0.904		
	(0.805)	(0.842)	(0.828)	(0.790)		
37169 (fips code)	1.036	0.827	0.809	1.339		
	(0.917)	(0.735)	(0.736)	(1.190)		
37171 (fips code)	3.190	3.456	3.460	3.220		
	(2.080)	(2.237)	(2.231)	(2.097)		
37173 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37175 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37177 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37179 (fips code)	0.399	0.404	0.377	0.316		
	(0.306)	(0.308)	(0.289)	(0.271)		
37181 (fips code)	0.722	0.622	0.684	0.715		
	(0.799)	(0.690)	(0.759)	(0.792)		
37183 (fips code)	1.349	1.278	1.329	1.392		
	(0.687)	(0.650)	(0.676)	(0.710)		
37185 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
37187 (fips code)	4.409	4.307	4.752	4.417		
	(5.542)	(5.176)	(5.821)	(5.546)		
37189 (fips code)	2.412	2.190	2.319	1.557		
	(2.181)	(1.971)	(2.071)	(1.744)		
37191 (fips code)	0.634	0.644	0.674	0.648		
	(0.411)	(0.414)	(0.433)	(0.420)		
37193 (fips code)	0.945	1.043	1.042	0.940		
	(0.726)	(0.796)	(0.794)	(0.723)		
37195 (fips code)	0.978	1.008	1.008	0.976		

	(0.670)	(0.687)	(0.688)	(0.670)		
37197 (fips code)	1.256	1.229	1.433	1.237		
	(1.657)	(1.677)	(1.834)	(1.629)		
37199 (fips code)	(Excluded)	(Excluded)	(Excluded)	(Excluded)		
N	19670	19670	19670	19615	20983	20983
Pseudo R-sq	0.280	0.264	0.271	0.272	0.242	0.231
AIC	2506.7	2548.7	2529.5	2470.0	2512.8	2537.7
Exponentiated coefficients; Standard errors in parentheses						
* p<0.05; ** p<0.01; *** p<0.001						

Table A-2. Homicides and Death Sentences by Category.

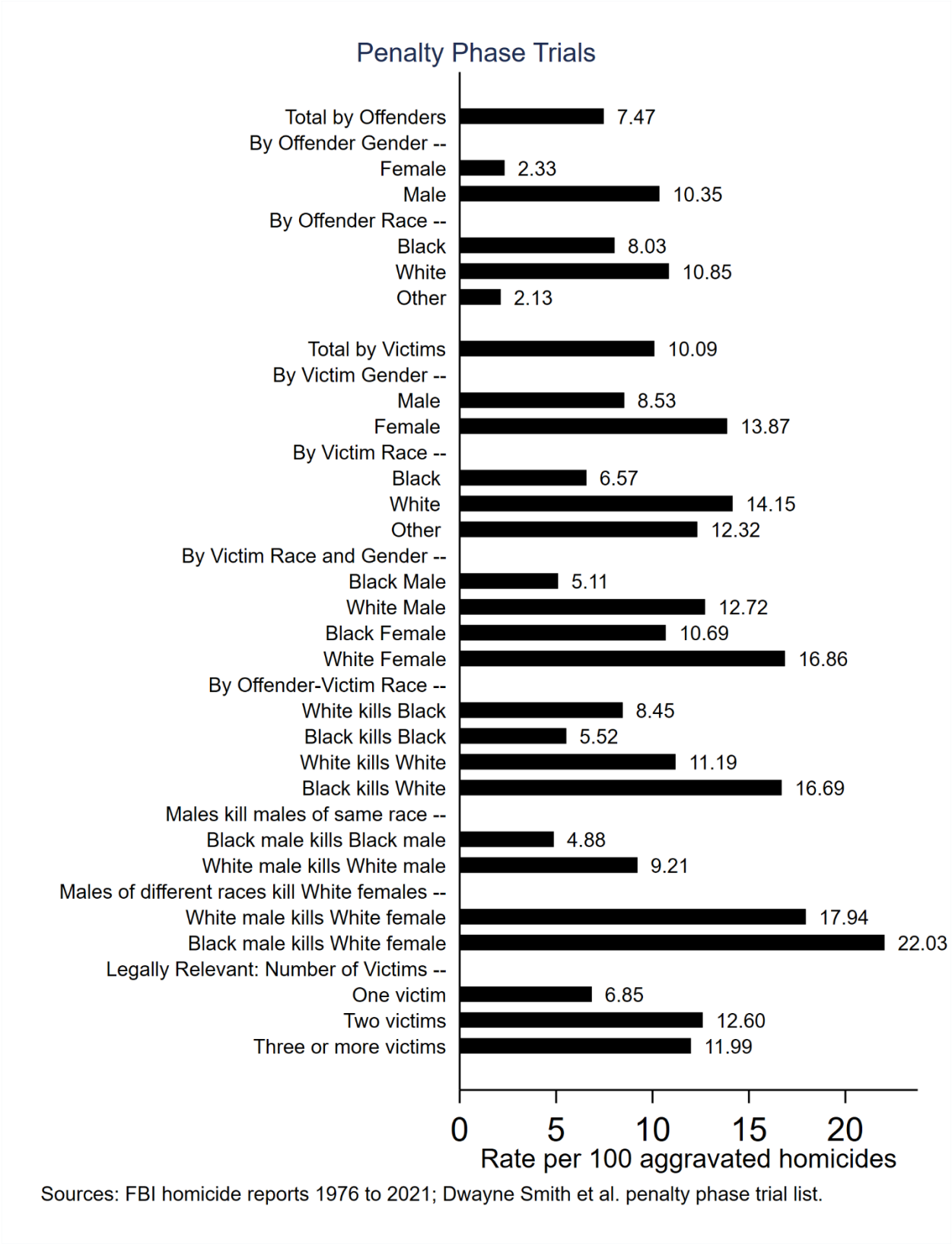
Category	Total	Not Death	Death	Pct Death
Total	21,055	20,673	382	1.81
Offender Black	13,579	13,406	173	1.27
Offender White	7,427	7,267	160	2.15
Offender Male	18,195	17,872	323	1.78
Offender Female	2,809	2,799	10	0.36
Victim Black Male	10,034	9,980	54	0.54
Victim White Male	6,364	6,201	163	2.56
Victim White Female	2,671	2,530	141	5.28
Victim Black Female	2,472	2,413	59	2.39
Black kills Black	11,673	11,577	96	0.82
White kills White	6,817	6,642	175	2.57
Black kills White	1,930	1,829	101	5.23
White kills Black	635	625	10	1.57
Black Male kills Black Male	8,227	8,176	51	0.62
White Male kills White Male	4,037	3,941	96	2.38
Black Male kills Black Female	2,148	2,091	57	2.65
White Male kills White Female	1,923	1,833	90	4.68
Black Male kills White Male	1,369	1,309	60	4.38
Black Female kills Black Male	1,309	1,308	1	0.08
White Female kills White Male	893	886	7	0.78
Black Male kills White Female	520	471	49	9.42
White Male kills Black Male	459	451	8	1.74
Black Female kills Black Female	246	245	1	0.41
White Female kills White Female	194	193	1	0.52
White Female kills Black Male	93	93	-	-
White Male kills Black Female	88	82	6	6.82
Black Female kills White Male	64	64	-	-
Black Female kills White Female	34	33	1	2.94
White Female kills Black Female	15	15	-	-
Weapon is a gun	14,202	14,010	192	1.35
Weapon is not a gun	6,855	6,663	192	2.80
Robbery	1,204	1,113	91	7.56
Multiple victims	1,120	1,044	76	6.79
Elderly victim	1,116	1,057	59	5.29
Drug-related	765	757	8	1.05
Other felony	736	699	37	5.03
Child victim	666	638	28	4.20
Gang-related	177	176	1	0.56
Burglary	169	155	14	8.28

Sexual Assault	73	50	23	31.51
Relation: Acquaintance	8,815	8,691	124	1.41
Relation: Family	4,999	4,942	57	1.14
Relation: Unknown	4,494	4,411	83	1.85
Relation: Stranger	2,707	2,629	78	2.88
1970s	2,044	2,030	14	0.68
1980s	4,331	4,231	100	2.31
1990s	5,371	5,213	158	2.94
2000s	3,925	3,892	33	0.84
2010 to 2023	5,312	5,307	5	0.09
Offender under 18	1,207	1,200	7	0.58
Offender 18 to 20	3,291	3,245	46	1.40
Offender 21 to 24	3,848	3,780	68	1.77
Offender 25 to 34	6,272	6,111	161	2.57
Offender 35 to 44	3,397	3,329	68	2.00
Offender 45 or older	3,040	3,008	32	1.05

Appendix B. Illustration of Rates of Penalty Phase Trials and Executions per 100 Aggravated Homicides.

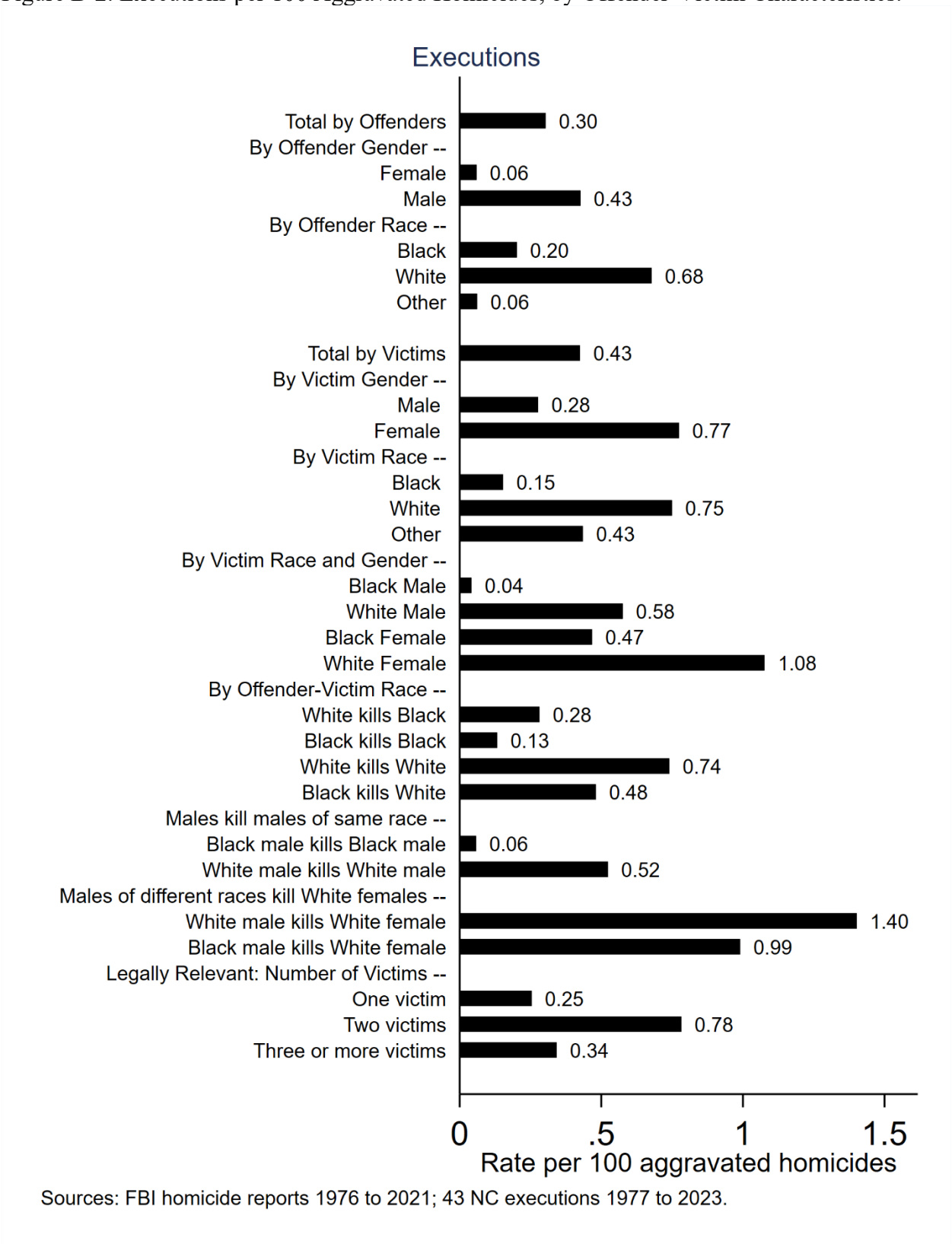
Figure 1 illustrates the rates of death sentencing per 100 aggravated homicides, using data from Table 1. Figures B-1 and B-2 provide equivalent presentations for penalty phase trials and executions. The format and interpretation of these figures is identical to that of Figure 1 in the text.

Figure B-1. Penalty Phase Trials per 100 Aggravated Homicides, by Offender-Victim Characteristics.



Sources: FBI homicide reports 1976 to 2021; Dwayne Smith et al. penalty phase trial list.

Figure B-2. Executions per 100 Aggravated Homicides, by Offender-Victim Characteristics.



Sources: FBI homicide reports 1976 to 2021; 43 NC executions 1977 to 2023.