Report on the Death Sentence of Brad Sigmon

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Introduction

We have been retained to provide analysis and information to the South Carolina Supreme Court in reference to the scheduled execution of Mr. Brad Sigmon, who was sentenced to death in the state in 2002. Specifically, last week after receiving the Attorney General's Return, Mr. Sigmon's attorneys asked us to analyze the impact of the specific aggravating circumstances in Mr. Sigmon's case across individuals who had similar aggravating circumstances but did not receive death. We have previously provided reports in the cases of Mr. Freddie Owens (September 4, 2024) and Mr. William Dickerson (March 26, 2024). Our qualifications are laid out in Appendix A of this Report.

We assess two important questions in this Report. First, among individuals who were relatively "similarly situated" to Mr. Sigmon and who faced the death penalty, what share ultimately received a sentence of death and what share a non-death sentence? Second, across the entire South Carolina death penalty system, do legally relevant factors dominate in explaining which individuals are sentenced to death and which receive sentences less than death, or do legally irrelevant factors such as time period, geography, and race correlate more strongly with these outcomes?

Our answer to the first question is that among individuals similarly situated to Mr. Sigmon, the outcomes are far from determinative. Many received sentences less than death. To the second question, our conclusion is that the State's death penalty system is largely driven by legally irrelevant factors. Time period, geography, and race play a much more important role in

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determining who is sentenced to death than the legally relevant question of which aggravating

factors were associated with the crime. These are chilling findings both for Mr. Sigmon as well

as for anyone concerned with the fairness and logic of the South Carolina death penalty system.

Database of the 385 Death Noticed Cases in South Carolina

As we explained in our previous reports (Owens, September 4, 2024; Dickerson, March

26, 2024), we make use of a database of 385 Death Notices, a comprehensive assessment of

every death notice in South Carolina since 1977. We worked from a database provided by

attorneys Lindsey S. Vann, Hannah L. Freeman, and John H. Blume, compiled for litigation in

the case of *Moore v. Stirling* (2020-001519) in the South Carolina Supreme Court. This database

consists of a record of death-noticed cases in the state since the current death penalty regime was

established in 1977, through 2021. The list was compiled by Vann et al. by reference to orders

from the Chief Justice of the South Carolina Supreme Court vesting jurisdiction in a specific

circuit judge upon receipt of a death notice; these records were obtained from the S.C. Office of

Court Administration. The list was supplemented by Vann et al.'s searches of legal databases for

opinions referencing death sentences or death notices. Therefore, it should be understood in this

section, we are not analyzing a sample, but a full or near-full census of every case where a death

notice was issued, and we can therefore analyze what characteristics are statistically more

common in the cases that result in a sentence of death from those which do not.

Note that we were concerned here only with the original decision to sentence the

individual to death; we did not review retrials, reversals, or new sentencing hearings, only the

original sentence of death or other outcome in a death-noticed case.

Before conducting analyses, we took various steps to ensure the data were in a workable

format. With the assistance of two undergraduate students from the University of North Carolina

at Chapel Hill, we verified the aggravating circumstances, year of original sentence, final case outcome, and the race and gender of the defendant and the victim(s) in each of the 385 crimes in the database using court documents and newspaper sources. The database we received had only a short summary of the facts of the case, but we did additional research to verify and expand on the information concerning aggravating circumstances, in particular. We did this by using court documents and newspaper sources. In some cases, race and gender information may have been missing and we supplemented this in a similar fashion. We also updated the database for cases that were decided after the end of the previous data collection (e.g., cases from 2022 and 2023). The authors of this report personally reviewed these database extensions.

The original database had extensive information about the eventual outcome of the death sentence on appeal, but we recoded this information to focus only on the question of whether the death notice led to a death sentence, or not. If it did not, we coded the outcome as "not death" (0), and if so, as "death" (1). This is our only outcome of interest. The database had 180 cases of death and 205 cases of not death, out of 385 cases in total.

Univariate Assessment of the Odds of a Death Sentence: Factors Similar to Mr. Sigmon

In this section, we analyze the 385 death noticed crimes in South Carolina since 1977 to determine the primary factors in predicting the likelihood of receiving a death sentence. We pay attention to the legally relevant and irrelevant factors of Mr. Sigmon's case and analyze the rate of all defendants receiving a death sentence. We begin by looking at each variable at a time and then incorporate all the information together into a single logistic regression to test the independent effect of each variable while controlling for the others.

<u>Legally Relevant Factors</u>

In this section, we present the rate of death sentences among defendants with similar legal facts to Mr. Sigmon. Mr. Sigmon's crime involved two victims and three aggravators: two murders, burglary, and torture. We present these rates in Figure 1. The first bar and solid line shows the death sentence rate for all death noticed people in South Carolina since 1977. As noted above, 180 individuals were sentenced to death, and 205 were not, so this rate is 46.75 percent. The remaining bars show the death sentence rate for legally relevant factors that are present in Mr. Sigmon's case. Any horizontal bar to the left of the vertical line indicates an under-representation of death sentences compared to all cases, and a bar to the right of the solid line shows an overrepresentation of death sentences for that group. If the legally relevant facts of Mr. Sigmon's case were so egregious that they would guarantee a death sentence, then all horizontal bars would fall near the far right of the x-axis (100 percent).

Figure 1: Death sentence outcomes based on legally relevant factors of Mr. Sigmon's case
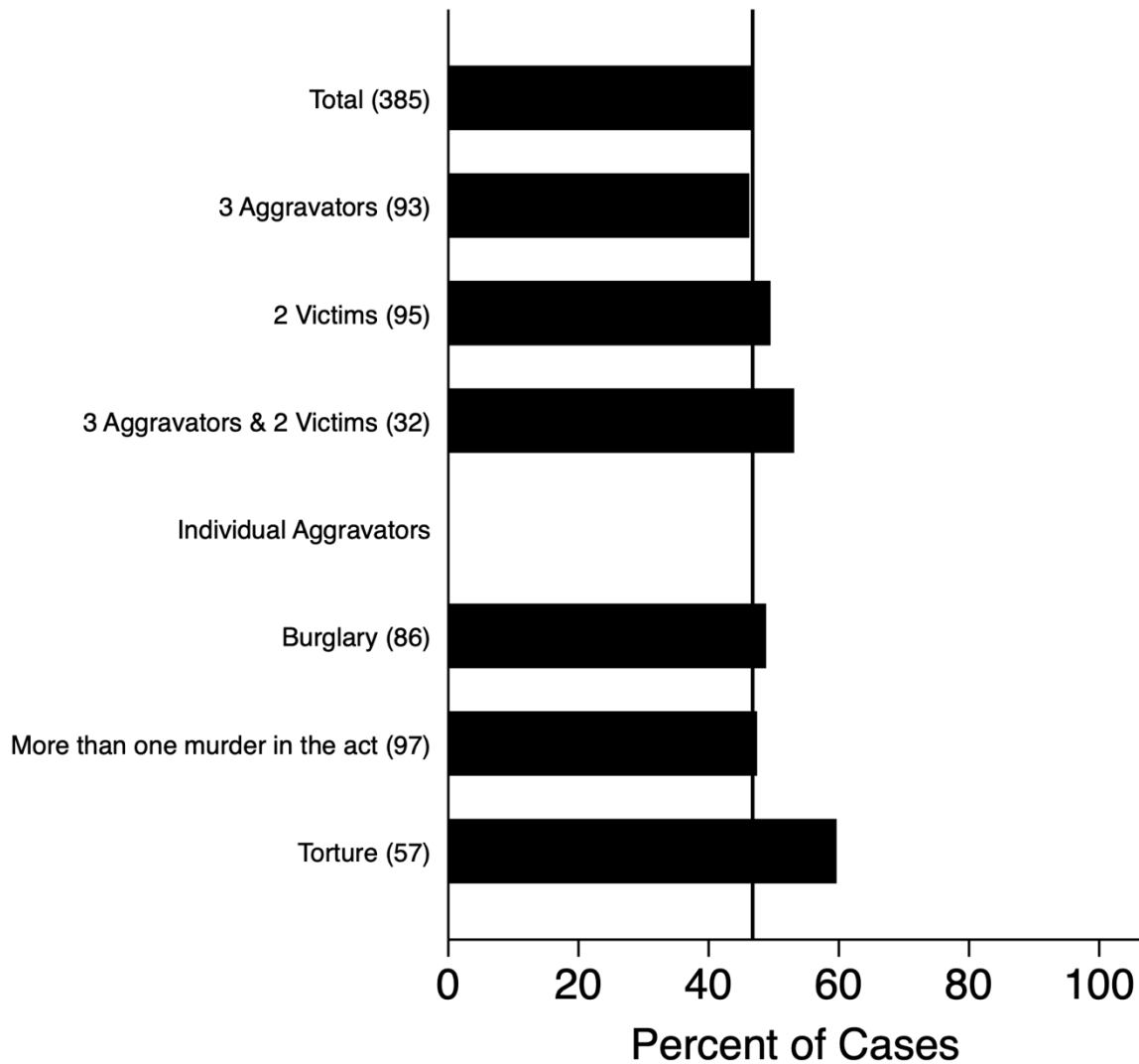
Numbers in parentheses indicate the number of cases. Vertical line shows the overall rate of death sentence outcomes: 46.75 percent.

The second bar shows the death sentence outcomes for the 93 death noticed cases that had exactly three aggravators (46.24 percent). This means that individuals with multiple aggravators were no more likely and no less likely than average to be sentenced to death. This group includes Mr. Sigmon. Statistically, across all the people considered for a death sentence in the modern history of the state, having 3 aggravators provides no insight at all into whether a defendant was sentenced to death.

The next bar looks at 95 cases with two victims, as in Mr. Sigmon's case. Of these cases, half (49.47 percent) received death and half did not. Again, statistically, across all the people considered for a death sentence in the modern history of the state, having 2 victims in no way is a predictor of whether a defendant was sentenced to death.

Unsurprisingly, as demonstrated in the third bar, the death sentencing rate for cases with both two victims and three aggravators is 53.16 percent and is not a predictor of a death sentence.

Mr. Sigmon faced three particular aggravators: Burglary, more than one murder in the act, and torture. The next three bars in the Figure explore cases with those particular aggravators. The length of the bars indicates the likelihood of a death sentence being imposed: 48.84 percent likelihood for burglary; 47.42 percent likelihood for multiple killings; and 59.65 percent lilkelihood for torture. None of these three aggravators are predictive of defendants receiving a death sentence. Among all variables analyzed, death noticed cases that have an aggravating circumstance of torture have the highest death sentence rate, but even this leaves us with a 60 / 40 chance of one outcome over the other; hardly a determinative finding. Virtually all the other variables have same odds of receiving a death sentence as a coin toss.

Legally Irrelevant Factors

Next, we perform an identical analysis of legally *irrelevant* factors that are present in Mr. Sigmon's case: the race and sex of the victim(s) and defendant. Figure 2 presents the results.

Figure 2: Death sentence outcomes based on legally irrelevant factors of Mr. Sigmon's case
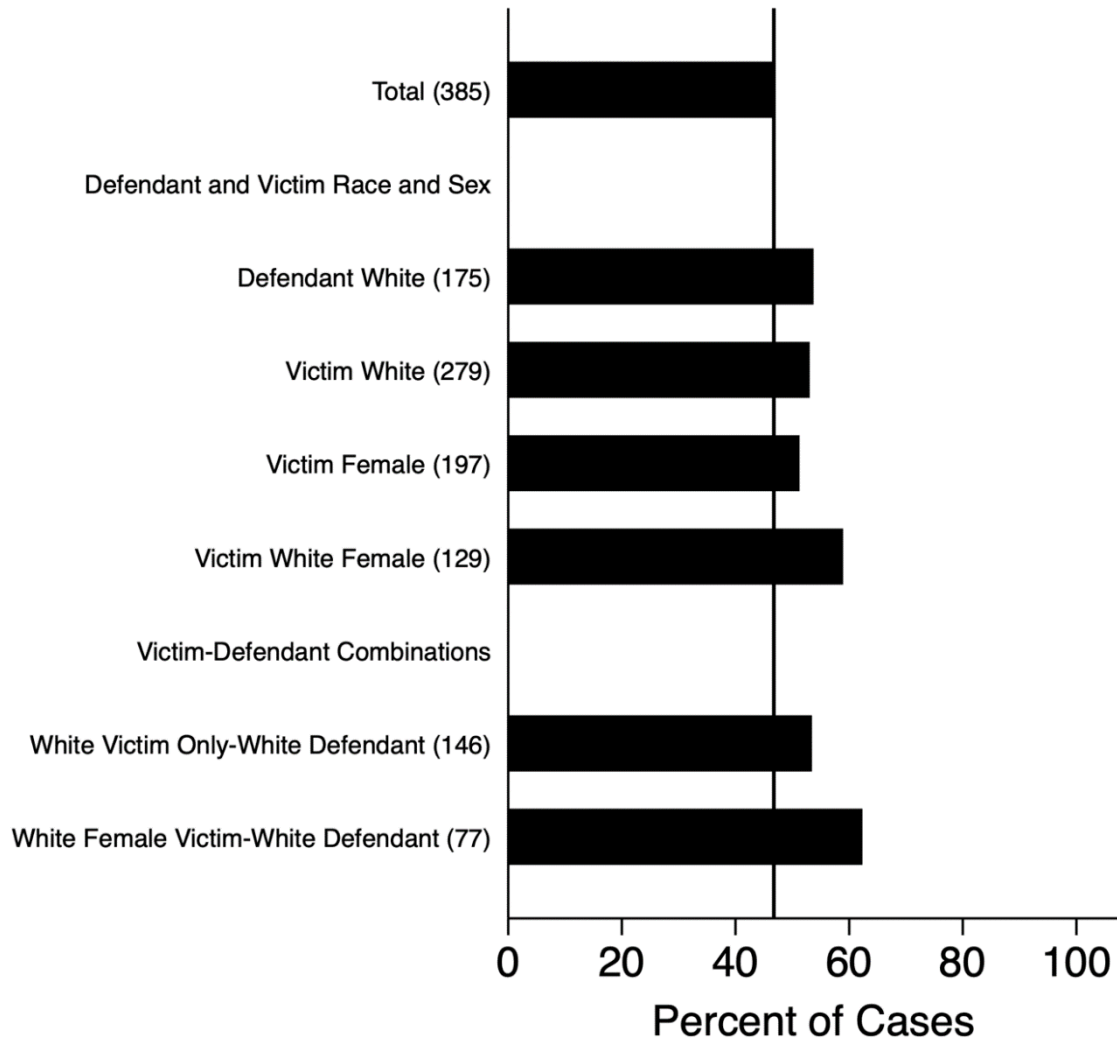
Numbers in parentheses indicate the number of cases. Vertical line shows the overall rate of death sentence outcomes: 46.75 percent.

Unlike the legally relevant variables, all the legally irrelevant factors identified within Mr. Sigmon's case show an overrepresentation of the death-sentencing rate: White defendants (53.71 percent), white victims (53.05 percent), female victim (51.27 percent), and cases with at least one white female victim (58.91 percent). The final category in the bar chart shows the victim-defendant combinations: cases with a white defendant with only white victims has a death

sentence rate of 53.42 percent and cases with a white defendant and a white female victim have a death sentence rate of 62.34 percent.

When the variables in Figure 1 (legally relevant) and Figure 2 (legally irrelevant) are examined individually, the variable that has the highest death sentencing rate is not a legally relevant factor; it is cases with a white defendant and a white female victim.

This section has focused on characteristics of the crime that are directly comparable to Mr. Sigmon's case. In the next section, we look at all death-sentenced cases and compare the impact of legally relevant to legally irrelevant factors. Then in a later section we conduct a multivariate analysis of these questions. The results confirm what we have shown with Mr. Sigmon: no particular aggravators or demographics generate more than a 60 / 40 split in the odds of a death sentence being imposed versus a lesser punishment. Instead we will see in later sections that many legally irrelevant factors are predictive. We turn to this analysis now.

All Death Noticed Cases

We turn now to look at South Carolina's history of death sentencing overall, comparing rates of death sentencing across all legally relevant and legally irrelevant factors that we can assess with the database in our possession. Having found little tendency for cases with Mr. Sigmon's particular facts or characteristics to lead overwhelmingly (or even substantially) to a penalty of death, we ask here whether these findings translate to the South Carolina system overall, and we find that legally irrelevant factors are much more important drivers of death sentencing outcomes than legally relevant factors.
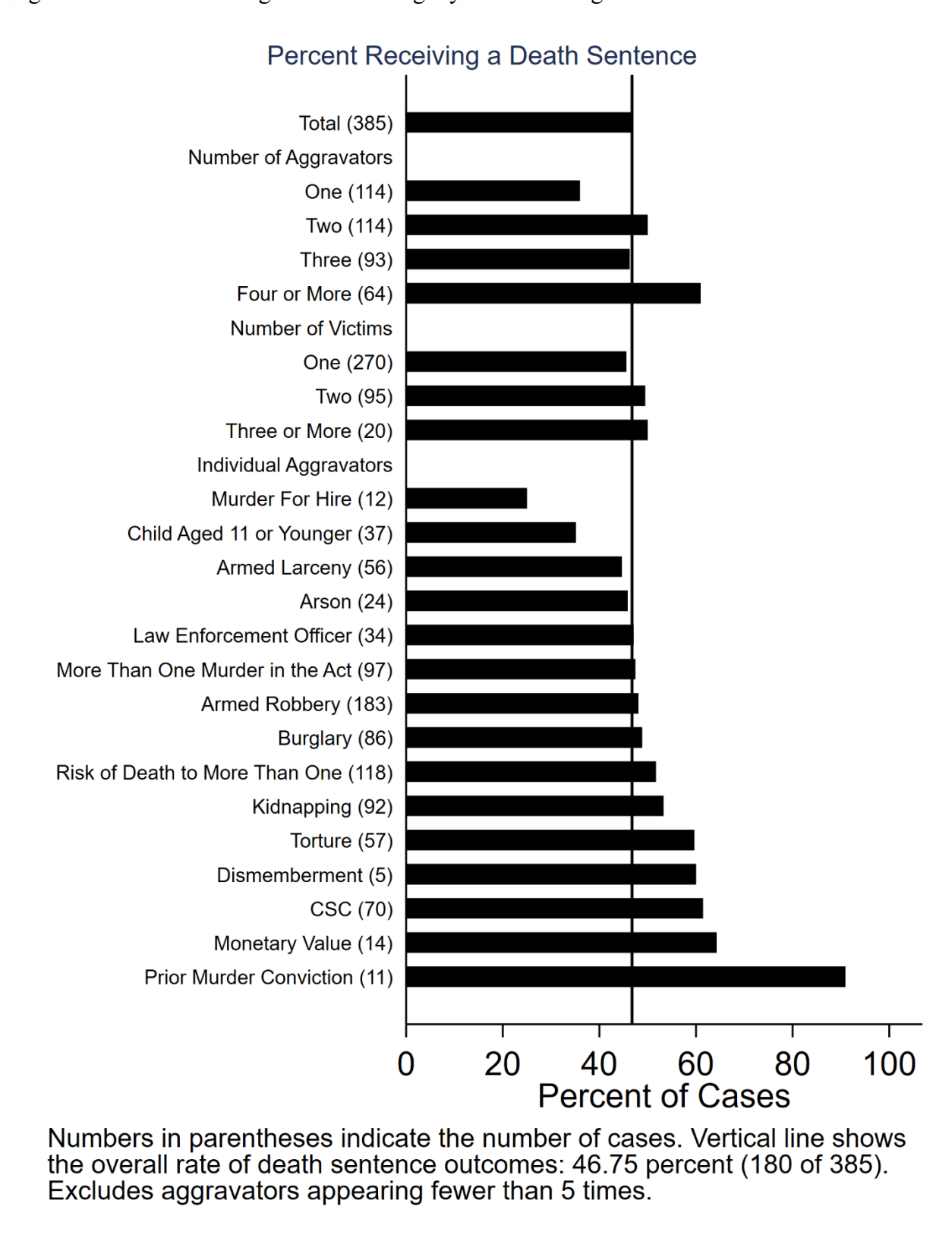
Legally Relevant Factors

Figure 3 shows the death sentence rate for all legally relevant factors, including the number of aggravators, the number of victims, and individual aggravators. We exclude any

aggravators that appear less than five times.[1] Aggravators are listed in descending order of death

sentence rate. If the death sentence rate increases with the severity of the crime, such as the

number of aggravators and the number of victims, we should see the death sentence rate increase

with the number of aggravators and victims. We do not see such trends.

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[1] One case had poison (outcome: death); 2 had housebreaking (both led to death); 2 had assault with intent to ravish (one death, one not); 4 had victim was a witness (one death, three not).

Figure 3: Death sentencing rates across legally relevant categories.
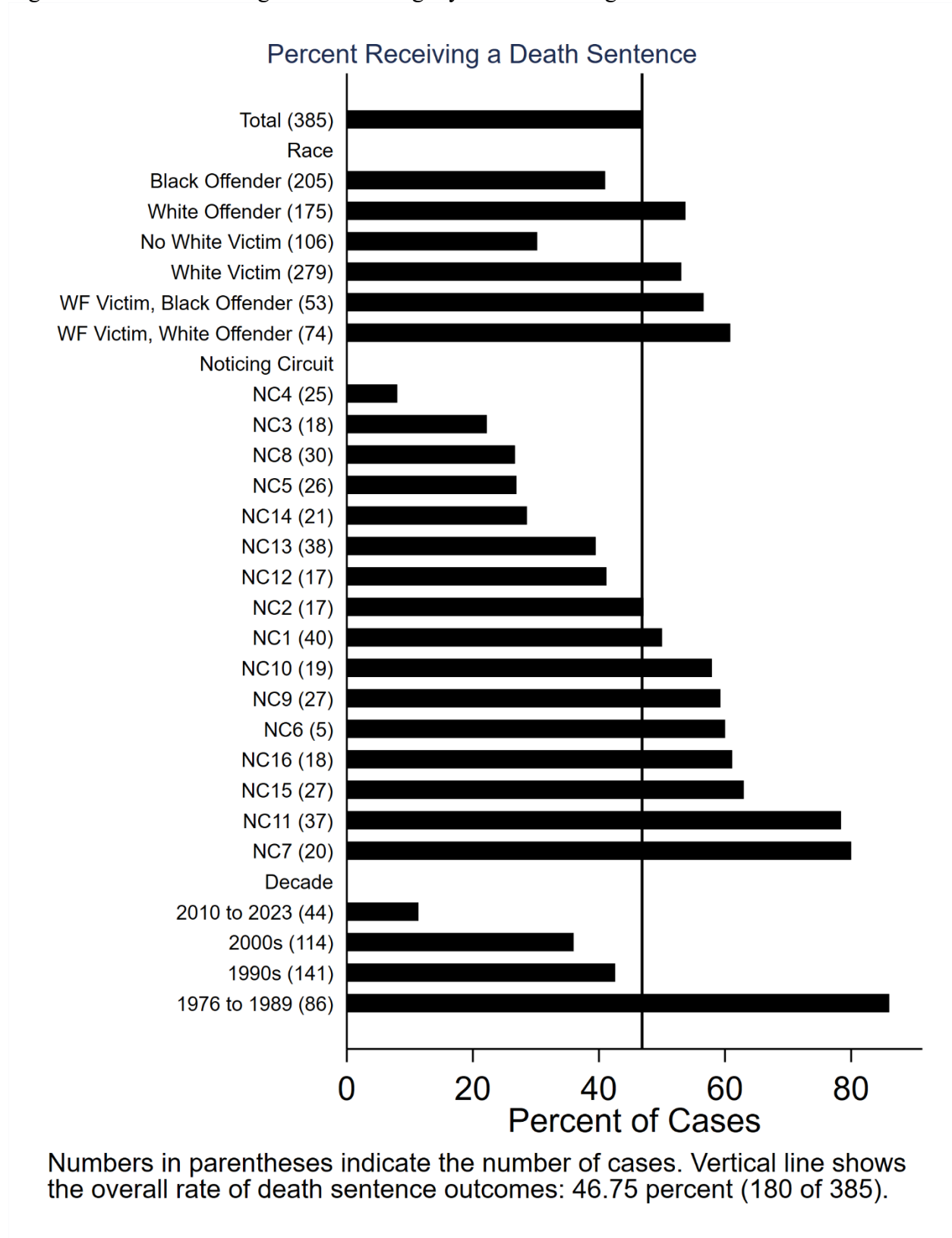

Percent Receiving a Death Sentence

Numbers in parentheses indicate the number of cases. Vertical line shows the overall rate of death sentence outcomes: 46.75 percent (180 of 385). Excludes aggravators appearing fewer than 5 times.

The first horizontal bar and solid line shows the death sentence rate for all death noticed cases. The horizontal bars falling under the "Number of Aggravators" category show that the death sentence rate for the number of aggravators is lowest for cases with only one aggravator (36 percent); it increases to 50 percent for cases with two aggravators, declines to 46 percent for cases with three aggravators, and increases to 61 percent for cases with four or more aggravators. Again, we are in the 60 / 40 range even for cases with 4 or more aggravators.

Bars under the "Number of Victims" category show that there is a slight difference between death noticed cases with one victim and two and three victims, though there is no clear increase between them, with all the rates falling between 46 and 50 percent. When looking at individual aggravators, most fall within the 40 to 60 percent range. Two aggravators have lower rates: murder for hire (25 percent) and murder of a child aged 11 or younger (35 percent). Only two aggravators have a death sentence rate above 60 percent: monetary value (64 percent) and defendants with a prior murder conviction (91 percent).

Legally Irrelevant Factors

Legally irrelevant factors include the race of the defendant, the race and sex of the victims, the race-sex combinations of the defendant and victims, the noticing circuit, and the year that the sentencing occurred. We list the death sentence rate in this order in Figure 4. The noticing circuit and decade of the original sentence are listed in ascending order of death sentence rate.

Figure 4. Death sentencing rates across legally irrelevant categories.

Numbers in parentheses indicate the number of cases. Vertical line shows the overall rate of death sentence outcomes: 46.75 percent (180 of 385).

Looking first at the race of the victim, death noticed cases with no White victims has a much lower death sentence rate (30 percent) than cases with a White victim (54 percent). Of all the race factors we list, cases with a White defendant and a White victim have the highest death sentencing rate (61 percent).

Turning to the noticing circuit and the decade of sentencing, we find huge differences in the death sentence rate. Unlike the legally relevant factors, which ranged from around 40–60 percent death sentencing rates, the location where the crime occurs generates death sentencing rates ranging from 8 to 80 percent. If a defendant is death noticed in Circuit Four, they are very unlikely to receive a death sentence (just 2 of 25 cases, or 8 percent), whereas 16 of 20 defendants (80 percent) from Circuit Seven received a death sentence. Mr. Sigmon's case derives from Circuit Thirteen, which with a 40 percent death sentencing rate is above five other Circuits.

Equally shocking are the findings on death sentencing rates by the decade of sentencing. Defendants who were sentenced between 2010 to 2023 were very unlikely to receive a death sentence, with just 5 of 44 cases, or 11 percent ending in a death sentence. But before 1990, a defendant had an 86 percent chance to receive a death sentence. Seventy-four of 86 cases during that period received a death sentence. Mr. Sigmon's case, from 2002, derives therefore from the decade of the 2000s, which saw 36 percent of death-noticed cases leading to a death sentence, compared to only 11 percent in the period since 2010.

Univariate assessments provide a useful comparison but could potentially obscure spurious relationships among multiple variables. Therefore, in the next section we conduct multivariate analyses to see which factors most likely predict a death sentence outcome, controlling for other factors.

Multivariate Assessment of the Odds of a Death Sentence

Here, we run a series of statistical models to calculate which characteristics produce a higher or lower likelihood of receiving a death sentence, controlling simultaneously for other characteristics of the case. We derive these estimates by conducting a logistic regression, where the outcome variable has a value of 0 where there is no death sentence and 1 if a death sentence is imposed. The independent or predictor variables are identical to the ones described in the previous sections. A logistic regression allows for the simultaneous estimation of the effect of one variable while controlling for the effects of others.

A logistic regression produces two statistics of interest. First is an estimate for each variable indicating the degree to which it increases or decreases the odds of the outcome variable being present; these estimates can be translated into "odds-ratios," which is what we present below. An odds-ratio of 0.50 means that the variable reduces the odds by half (0.50); an odds-ratio of 1.5 means that it increases the odds of the outcome occurring by 50 percent (1.50). Odds ratios can range from close to zero (indicating a dramatic reduction in the likelihood of the outcome variable being present) to any positive number. For example, a ratio of 20 would indicate that the variable of interest produces 20 times the odds of the outcome variable being present compared to some baseline. An odds-ratio of 1.00 means the variable has no effect; numbers below 1.00 show reductions in the odds of the event; numbers above 1.00 show increases. Each estimate is also associated with a standard-error or an estimate of the likely range of possible outcomes given the number of observations in the study. Statistical significance is determined by the ratio of the estimate with its associated standard error, and is assessed in the tables below with a probability (p) value. P-values lower than 0.05 are generally considered to be statistically significant, meaning that they have less than a one-in-twenty chance of occurring by chance.

The second statistic of interest in a logistic regression equation is an estimate of the goodness of fit of the entire model. If the variables included in the model explain the outcome variable completely, the "pseudo R-squared" value will be close to 1.00; if they collectively have very little predictive capacity, then the value will be close to 0.00. The pseudo R-squared value can be interpreted as an estimate of the proportion of the variability in the outcome variable that the model explains, ranging from zero to one. Similarly, we present the "AIC" statistic; lower numbers here indicate that the model produces a higher explanatory fit.

Table 1 shows three logistic regression models. The first column includes only legally relevant factors, the second column includes only legally irrelevant factors, and the third column provides the full model of both legally relevant and irrelevant factors.

Table 1. Predicting death sentences with legally relevant and irrelevant variables.

	(1) Legally Relevant	(2) Legally Irrelevant	(3) Both
Predictor Variables:			
Number of Aggravators: Two (Baseline: One)	1.795		2.647
	(0.967)		(2.038)
Number of Aggravators: Three	1.505		2.892
	(1.398)		(3.856)
Number Of Aggravators: Four or More	3.184		8.998
	(4.839)		(19.65)
Number of Victims: Two (Baseline: One)	1.589		5.701*
	(0.823)		(4.023)
Number of Victims: Three or More	1.660		14.93**
	(1.192)		(15.40)
Armed Larceny	0.632		0.249
	(0.348)		(0.196)
Armed Robbery	0.987		0.344
	(0.466)		(0.242)
Arson	0.729		0.861
	(0.455)		(0.787)
Burglary	0.842		1.194
	(0.426)		(0.872)
Child Victim 11 or Younger	0.434		0.485
	(0.260)		(0.420)
Criminal Sexual Conduct	1.610		1.294
	(0.822)		(0.986)
Dismemberment	1.543		4.618
	(1.625)		(7.949)
Kidnapping	0.973		0.703
	(0.523)		(0.527)
Law Enforcement Victim	0.949		1.468
	(0.547)		(1.170)
Monetary Gain	1.862		0.535
	(1.486)		(0.615)
More than One Murder in One Act	0.471		0.157
	(0.314)		(0.150)
Murder for Hire	0.202		0.110
	(0.182)		(0.140)
Prior Murder Conviction	12.96*		27.05*
	(15.03)		(39.82)
Risk of Death to Many	1.169		0.822
	(0.648)		(0.652)
Torture	1.408		1.178
	(0.702)		(0.871)
Defendant Race White (Baseline: Black)		0.916	0.759

		(0.330)	(0.312)
Any White Victims (Baseline: None)		2.287*	2.894*
		(0.860)	(1.259)
White Female Victim, Black Defendant		2.353	2.121
		(1.163)	(1.247)
White Female Victim, White Defendant		1.336	0.838
		(0.527)	(0.407)
Noticing Circuit 2 (Baseline: NC1)		1.016	0.571
		(0.646)	(0.422)
NC3		0.274	0.134*
		(0.194)	(0.111)
NC4		0.0186***	0.00745***
		(0.0185)	(0.00890)
NC5		0.0961**	0.0302***
		(0.0730)	(0.0277)
NC6		0.291	0.195
		(0.429)	(0.292)
NC7		5.720*	8.857**
		(4.048)	(7.215)
NC8		0.229*	0.204*
		(0.146)	(0.150)
NC9		0.600	0.433
		(0.400)	(0.327)
NC10		1.431	1.363
		(1.001)	(1.054)
NC11		4.585*	3.725
		(2.717)	(2.584)
NC12		0.440	0.406
		(0.344)	(0.355)
NC13		0.797	0.662
		(0.422)	(0.407)
NC14		0.383	0.265
		(0.274)	(0.226)
NC15		1.851	2.838
		(1.089)	(1.971)
NC16		0.866	0.531
		(0.601)	(0.399)
1990s (Baseline: 1976 to 1989)		0.0425***	0.0371***
		(0.0217)	(0.0206)
2000s		0.0324***	0.0145***
		(0.0170)	(0.00891)
2010 and after		0.00538***	0.00158***
		(0.00394)	(0.00140)
N	385	385	385
pseudo R^2	0.075	0.356	0.443
AIC	534.2	388.9	382.3

Table 1 presents very troubling results. Model 1, consisting only of legally relevant factors, explains very little of the variations in outcomes. Only one of the 20 individual predictor variables achieve statistical significance (prior murder conviction). The pseudo-R squared value is very low, only 0.075, and the AIC value is 534, something we can compare with the results from Models 2 and 3.

When we look at Model 2, which includes no legally relevant factors at all, we find that many of the variables are highly statistically significant, and that the model fit statistics are much more robust. Finally, when we look at Model 3, which combines all the variables into a single model, the irrelevant variables that were significant predictors of death remain so. The goodness-of-fit statistics increase only marginally from Model 2 to 3. This means that the legally irrelevant factors drive the outcomes in the South Carolina death penalty system, and that legally relevant factors, which should be driving outcomes, has very little impact on who gets death and who avoids it.

Table 2 provides another demonstration of the differences between Models 1, 2, and 3. Part A shows how many life and death outcomes were predicted by Model 1, based only on legally relevant factors, and it compares these predictions to the actual outcomes. The model correctly predicts 66 percent of the cases. Part B does the same for Model 2 in Table 1, and Part C shows the results for Model 3.

Table 2. Comparison of three predictive models.

Predicted Outcomes	Actual Outcomes					
Part A.	Life		Death		Total	
Relevant Factors Only	N	%	N	%	N	%
Life	162	64.8	88	35.2	250	100.0
Death	43	31.9	92	68.1	135	100.0
Total	205	53.2	180	46.8	385	100.0
Correct	254	66.0				
Part B.						
Irrelevant Factors Only	Life		Death		Total	
	N	%	N	%	N	%
Life	176	76.9	53	23.1	229	100.0
Death	29	18.6	127	81.4	156	100.0
Total	205	53.2	180	46.8	385	100.0
Correct	303	78.8				
Part C.	Life		Death		Total	
Both	N	%	N	%	N	%
Life	175	81.8	39	18.2	214	100.0
Death	30	17.5	151	82.5	171	100.0
Total	205	53.2	180	46.8	385	100.0
Correct	316	82.1				

Part A shows that the legally relevant factors presented in Table 1 correctly predict 66 percent of death sentence outcomes; Part B shows that a model that specifically excludes these factors and includes only race, geography, and time period does substantially better, explaining 79 percent of the actual results of these death-noticed cases. Finally, Part C shows that including the legally relevant factors in the model produces only a modest improvement in the share of cases correctly predicted, moving this value from 79 percent to 82 percent.

Conclusion

Our comparison of every death-noticed case in the modern history of the South Carolina death penalty system shows very troubling patterns.

None of the particular characteristics or aggravators associated with the Sigmon case demand death. All are linked with rates of death-sentencing in the range of 40 to 60 percent. The legally irrelevant fact that the case involved a white offender and a white female victim generates a slightly higher odds of a death outcome (62 percent) than the fact that the aggravator of torture was present (60 percent death).

Looking more generally at the system overall, legally relevant aggravating circumstances generate poor and consistently insignificant predictions of death-sentencing outcomes. By contrast, legally irrelevant factors of race, gender, geography, and time period clearly drive the system.

Mr. Sigmon's case facts did not demand a death sentence, compared to other similar cases. And South Carolina has been operating a death penalty system that is capricious and arbitrary because it has not sentenced to die those who have more or any particular aggravating factors or numbers of victims, but rather has chosen people for the death chamber based on timing, geography, and race.

Respectfully submitted,

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