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Introduction

An unexpected feature of the modern death penalty is the fact that most persons sentenced to death are not executed. Since 1973, more than 8,000 persons have been sentenced to death, but about 1,500 persons have been executed.[2] Death sentences are remarkably poor predicators of who will ultimately be executed.[3]

An even more salient feature of the death penalty is the recognition that race matters.[4] Three decades ago in the most important empirical research on the death penalty to date, David Baldus, George Woodworth, and Charles Pulaski published a landmark book, *Equal Justice and the Death Penalty*, which documents the effect of race on capital sentencing. Specifically, the "Baldus study" showed that the odds of a death sentence were about four times greater in murder cases involving at least one white victim.[5]

Race and rarity, then, stand as hallmarks of the American death penalty. But until now the interaction of these two phenomena has not been studied. This Article examines whether race is relevant for understanding the fate of the chosen few – that is, does race play a role in predicting who among the condemned is actually executed. To analyze this question, our research picks up where Baldus left off by expanding and re-analyzing his dataset. Whereas Baldus focused on the impact of the race of the victim on death sentencing, what he could not study because the data did not yet exist, is whether the race of the victim also impacts whether the person will ultimately be executed. This Article presents original quantitative research showing that Baldus's data actually *understated* the race problems inherent to the operation of modern death penalty jurisprudence. Baldus's seminal research showed that the race of the

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[2] FRANK BAUMGARTNER ET AL., DEADLY JUSTICE: A STATISTICAL PORTRAIT OF THE DEATH PENALTY 139 (2018) (On June 20, 2019, the state of Georgia executed the 1,500th person, Marion Wilson, since the nation's death penalty was reinstated in 1976). Brendan O'Brien, *Georgia Carries out 1,500th U.S. Execution Since Penalty was Reinstated*, REUTERS (June 20, 2019), https://www.reuters.com/article/us-usa-georgia-execution/georgia-to-carry-out-1500th-us-execution-since-capital-punishment-reinstated-idUSKCN1TL1A3

[3] Rather than predicting a likely execution, "by far the most common outcome following a death sentence is that the death sentence is vacated on appeal." BAUMGARTNER ET AL., *supra* note 2.

[4] CAROL S. STEIKER & JORDAN M. STEIKER, COURTING DEATH: THE SUPREME COURT AND CAPITAL PUNISHMENT 6-7(2016) (noting that whereas the list of capital offenses in the Massachusetts Bay Colony reflected "theological concerns" and was often used to promote "religious purity," in the southern colonies the penalty was designed to "protect the slave economy.").

[5] As we explain in the Statistical Appendix, based on refinements to statistical methods developed in the decades since Baldus published his research, it is probable that Baldus actually understated the impact of the race of the victim on the sentencing outcome by overfitting the model. Based on the current best practices for research of this type, it appears that the odds of a death sentence are almost 5 times greater for persons who killed a white victim. This is not to discredit Baldus's work, but rather to show how well it has stood the test of time. DAVID C. BALDUS ET AL., EQUAL JUSTICE AND THE DEATH PENALTY: A LEGAL AND EMPIRICAL ANALYSIS (1990). *Cf.* Samuel R. Gross, *The Death Penalty, Public Opinion, and Politics in the United States*, 62 ST. LOUIS U. L.J. 763, 771 (2018) (describing Baldus's work as the seminal research in the field).

victim was relevant to sentencing outcomes, and now we present the first controlled study demonstrating that racial disparities persist and indeed are magnified by the appellate and clemency processes.

By combining Baldus's sentencing data with original execution data we demonstrate that the overall execution rate is substantially greater for defendants who killed a white victim than for those who killed a black victim. Specifically, 2.26% (22/972) of the defendants who killed a white victim were ultimately executed, compared to just .13% (2/1503) of the defendants who killed a black victim. Thus, the overall execution rate is a staggering 17 times greater (2.26/.13) for defendants who killed a white victim.[6] In addition, our data confirms the general supposition that executions have become extraordinarily rare events; the overall execution rate among the cases studied by Baldus is less than 1% (24/2475).

This evidence upends current jurisprudence because in *Gregg v. Georgia*[7], the Court downplayed racial disparities or potential unfairness at sentencing by emphasizing the role of appellate courts. Specifically, the Court emphasized its trust in the ability of appellate courts to intervene to correct unfairness through mandatory appellate and proportionality review.[8] It was the neutral adjudication of appellate courts that would moderate the unpredictability and biases of jurors, prosecutors and police that has been documented by a generation of researchers. These actors, previous research has revealed, produce arbitrary[9] results insofar as the death penalty is not consistently reserved for the most culpable offenders.[10] And the conventional wisdom is that appellate review, particularly proportionality review like that employed in Georgia, is the "the best way to protect against arbitrariness in capital sentencing, because it ensures that only the worst of the worst are sentenced to death."[11]

However, we now show that this trust in appellate review as a check on discrimination is badly misplaced. Appellate judges appear unable or unwilling to reign in the racial disparities identified at the sentencing phase. In fact, our research shows appellate proceedings exacerbating rather than remediating, the problems of arbitrariness identified at earlier stages.

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[6] BALDUS ET AL.*supra* note 5.

[7] Gregg v. Georgia, 428 U.S. 153, 163 (1976) (the appellate review required that death sentences be reviewed to ensure they were free from "prejudice or any other arbitrary factor and were not excessive or disproportionate to the penalty applied in similar cases").

[8] *Id*.

[9] Arbitrariness, as used in this Articles, is a term of art. Generally, in law, and particularly in the context of the Eighth Amendment, arbitrary does not mean random. Instead, the term arbitrary is used to describe circumstances when something other than the appropriate criteria is used for selecting a legal consequence. Thus, in the death penalty context systems are said to be arbitrary if outcomes are based on anything other than culpability – that is, if death sentences turn on factors other than who is the worst of the worst. BALDUS ET AL., *supra* note 5, at 14-15 (explaining that in this context arbitrary can mean random or patterned by illegitimate factors such as race). *See* Tuilaepa v. California, 512 U.S. 967, 982 (1994) (Stevens, J., concurring) (recognizing as related concerns about arbitrariness and discrimination, and noting that "risk of arbitrary and capricious sentencing, specifically including the danger that racial prejudice would determine the fate of the defendant."); *see also* Steven F. Shatz & Nina Rivkind, *The California Death Penalty Scheme: Requiem for Furman*?, 72 N.Y.U. L. Rev. 1283 (1997) ("California has adopted a death penalty scheme which defines death-eligibility so broadly that it creates a greater risk of arbitrary death sentences than the pre-Furman death penalty schemes.").; *Id*. at 1285 ("relative infrequency of its application created the risk that it would be applied arbitrarily").

[10] *See, e.g*., Justin F. Marceau et al., *Death Eligibility in Colorado: Many are Called, Few are Chosen*, 84 U. COLO. L. REV. 1070 (2013) [hereinafter *Death Eligibility in Colorado*].

[11] Cliff Collins, *Let the Debate Begin Oregon Lawyers with A Stake in the Issue Weigh in on the Death Penalty*, OR. STATE BAR, (Or. St. B., Tigard, Oregon) June 2012, at 18, 21 ("Ours is one of the few states without any safeguards in place to review cases for proportionality.").

It turns out that the race-based arbitrariness of the death penalty is far worse than previously understood. The Baldus study found, most critically, that controlling for dozens of variables, someone convicted of murdering a white victim was considerably more likely to be sentenced to death. Through archival research, open record requests, and other forms of original research, we show that, after controlling for other factors, murdering a white victim is predictive not just as to who is *sentenced* to death, but who is actually *executed*.

This Article begins a new chapter in the empirical study of the death penalty and further illustrates the inherent difficulty of administering a fair, color-blind system of executions. Whereas leading death penalty scholars have described the Court's refusal to address Baldus's findings regarding the role of race in capital sentencing as the "original sin" of our death penalty system,[12] this Article demonstrates that racial disparity is not just the original sin, it is a recurring and defining feature of each stage of our capital punishment system. Up until now, the universe of empirical research regarding the death penalty has been largely limited to the question of who the state *sentences* to death, or to execution data that is so general as to preclude "careful studies" of execution.[13] This Article is the first to provide a rigorous, controlled examination of *who the state kills*. Our research shows that both rarity and race are operating in tandem such that the death penalty is racially disparate and simultaneously so rare as to be virtually random – a systematic lottery.

I. Putting the Baldus Data in Constitutional Context

In 1972 when the Supreme Court invalidated the death penalty in *Furman v. Georgia*, Justice Douglas identified the discriminatory operation of the death penalty as constitutionally problematic:

> A law that stated that anyone making more than $50,000 would be exempt from the death penalty would plainly fall, as would a law that in terms said that blacks, those who never went beyond the fifth grade in school, those who made less than $3,000 a year, or those who were unpopular or unstable should be the only people executed. A law which in the overall view reaches that result in practice has no more sanctity than a law which in terms provides the same.[14]

Other Justices reached a similar conclusion and held that the death penalty in America was "so wantonly and freakishly imposed" as to be unconstitutional.[15] Yet, only four years later in *Gregg v. Georgia*[16], the Court revisited the constitutionality of the death penalty following a string of newly adopted state statutes, and with a degree of idealism that looks more than a touch naïve in hindsight, the Court predicted that the revised death penalty statutes would eliminate the twin problems of arbitrariness and discrimination that had previously plagued the operation of the death penalty.[17] Celebrating the requirement of legislatively defined aggravating factors as a prerequisite for a death sentence, the Court speculated that:

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[12] STEIKER & STEIKER, *supra* note 4, at 3. *See generally* Susan A. Bandes, *All Bathwater, No Baby: Expressive Theories of Punishment and the Death Penalty*, 116 MICH. L. REV. 905 (2018) (providing an overview and analysis of the main arguments in COURTING DEATH).

[13] *See* BAUMGARTNER ET AL., *supra* note 2, 69-86 (providing the most detailed studies of execution data to date, but acknowledging an inability to replicate the sort of "careful studies of each eligible homicide" that have been conducted at the sentencing phase via the methodology of simply using aggregate data, rather than studying actual outcomes in individual cases; explaining further that the data set is not limited to a study of executions to "death-eligible" defendants).

[14] Furman v. Georgia, 408 U.S. 238, 256 (1972) (Douglas, J., Concurring).

[15] *Furman*, 408 U.S. at 309-10 (1972) (Stewart, J., concurring).

[16] Gregg v. Georgia, 428 U.S. 153.

[17] *Gregg*, 428 U.S. at 222–23.

> [a]s the types of murders for which the death penalty may be imposed become more narrowly defined and are limited to those which are particularly serious or for which the death penalty is peculiarly appropriate as they are in Georgia by reason of the aggravating-circumstance requirement, it becomes reasonable to expect that the *unconstitutional arbitrariness* that animates the *Furman* decision would be eliminated.[18]

Underlying the *Gregg* decision, then, was a confidence in the ability of new procedures to serve as an antidote to the arbitrariness that had permeated death sentencing procedures and resulted in the *Furman* finding of an Eighth Amendment violation.[19] David Baldus's research, however, serves as a potent example of the failure of modern death penalty procedures to cure the discrimination and arbitrariness rampant in the system.[20] Baldus's research tends to confirm a longstanding intuition about capital punishment in America: it is not so much that the death penalty has a race problem as it is that the race problems of America manifest themselves through the implementation of the death penalty.[21]

In the decades since *Gregg,* researchers have shown time and again that the revised death penalty systems are not fulfilling the constitutional promise of ensuring a capital sentencing system that is free from discrimination and arbitrariness.[22] First, research has shown that the use of aggravating factors has failed to achieve the objective of narrowing the class of death eligible defendants. Numerous studies across multiple states have shown that death eligibility rates are just as high, and correspondingly, death sentencing rates are just as low, or even lower, than they were at the time of *Furman*.[23] Second, and more relevant for purposes of this Article, dozens of studies have documented the impact of race in modern death sentencing decisions. Baldus's foundational work in this field, *Equal Justice and the Death Penalty,* demonstrated that dramatic racial disparities in sentencing patterns persisted in the wake of *Furman*, particularly when the race of the victim was considered.[24]

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[18] *Id*. at 222 (emphasis added).

[19] As one scholar put it, *Gregg* "expressed confidence that the states' newly revised procedures should work to curb the arbitrariness and capriciousness that had earlier troubled the *Furman* majority." John Charles Boger, *McCleskey v. Kemp: Field Notes from 1977-1991,* 112 NW. U. L. REV. 1637, 1637 (2018).

[20] The problem of racial disparity and discrimination in the administration of the death penalty is so persistent as to be regarded as inextricable by many leading scholars. Susan Bandes has observed that issues of race are "at the heart" and the origins of the U.S. death penalty, and racial disparities present some of the most "formidable challenges to its fair implementation." Bandes, *supra* note 15, at 906. *See also* MICHAEL J. KLARMAN, POWELL V. ALABAMA, THE SUPREME COURT CONFRONTS LEGAL LYNCHINGS, IN CRIMINAL PROCEDURE STORIES (1st ed. 2006); Steiker & Steiker, *supra* note 4 at 17.

[21]The Supreme Court's first African American Justice, Thurgood Marshall, ultimately concluded that the American death penalty was the embodiment of "the ultimate form of racial discrimination" in this country. BOB WOODWARD & SCOTT ARMSTRONG, THE BRETHREN: INSIDE THE SUPREME COURT 205 (1979).

[22] The failure of the death penalty statutes to adequately narrow the class of persons who are eligible for the ultimate sentence is well-documented at this point. *See, e.g*, *Infra* note 40.

[23] Central to the Court's decision in *Furman* to strike down the death penalty was the seeming infrequency of death sentences relative to the high-rates of eligibility for the penalty; the infrequency of death sentences among those eligible for the ultimate penalty suggested an arbitrariness and the potential for discrimination. Yet death sentencing rates still hover well below 20%, just as they were prior to *Furman*, and in some states death sentence rates among death eligible defendants are lower than 1%. *Infra* note 24.

[24] *See* BALDUS ET AL., *supra* note 6. Baldus studied charging and sentencing decisions in Georgia, the very state which had its death penalty reinstated by the Court based on its statutory reforms and which served as the template for many states looking to revive their capital punishment systems. David C. Baldus, Charles Pulaski & George Woodworth, *Comparative Review of Death Sentences: An Empirical Study of the Georgia Experience*, 74 J. CRIM. L. & CRIMINOLOGY 661, 664 (1983) (explaining that Georgia's statute "served as a model for many other states," and that it was a statute explicitly deemed "constitutional on its face").

Put differently, whereas *Gregg* reinstated the death penalty on the assumption that the statutory changes would cure the previously documented arbitrariness and noted the absence of any "facts to the contrary," Baldus's research provided precisely such contrary facts.[25] Baldus showed that while the race of the defendant was not predictive as to death sentencing outcomes, the race of the victim was a critical indicator of the likelihood of a death sentence. The odds of a death sentence, after controlling for numerous non-race variables, were 4.3 times greater for persons who murdered whites than persons who murdered blacks.[26] Aya Gruber observed that the Baldus study "revealed a disparity that would forever mark the death penalty as racist."[27]

In *McCleskey v. Kemp*, the Supreme Court considered a challenge to Georgia's death penalty based on Baldus's research.[28] In one of the most derided decisions in modern times, the Court held that Baldus's findings of racial disparity at the sentencing stage of capital cases were irrelevant to the constitutionality of capital punishment. As the Court explained, "at most, the Baldus study indicates a discrepancy that appears to correlate with race," and it does not prove actual discrimination.[29] The Court's willingness to accept Baldus's data as valid did not demonstrate, reasoned Justice Powell, that "racial considerations actually enter into any sentencing decisions in Georgia," because the most empirical data can do is "demonstrate a risk that the factor of race entered into some capital sentencing decisions."[30] Summarizing its conclusions, the Court explained, "we decline to assume that what is unexplained is invidious."[31] Commentators have lamented that "*McCleskey* stands for the proposition that "courts should no longer entertain statistical cases demonstrating even strong patterns of discrimination, but only cases involving smoking gun confessions or individualized evidence of racial misconduct or malice."[32]

Baldus's research, then, ran headlong into a constitutional roadblock. But times are changing with regard to the Court's willingness to consider well-controlled empirical studies, and leading scholars predict that, as with other divisive social issues such as gay marriage, the Court is likely to pivot away from the overtly moral debates of the twentieth century in favor of more instrumental or utilitarian assessments of the costs and benefits of the modern death penalty.[33] The ultimate constitutional validity of the death penalty may hinge on an assessment of emerging "empirical evidence on capital punishment," particularly

[25] Boger, *supra* note 22, at 1667.
[26] BALDUS ET AL., *supra* note 5 at 316, 328, 401. Such findings tend to vindicate the narrative that in our culture white lives matter more. Or in a slightly more legalistic parlance, perhaps this reveals the death penalty as a badge of slavery. Justice Harlan famously observed that because racial discrimination "lay at the very foundation of the institution of slavery," it is appropriately viewed as "a badge of servitude" under the Thirteenth Amendment. The Civil Rights Cases, 109 U.S. 3, 43 (1883) (Harlan, J., dissenting).
[27] Aya Gruber, *Equal Protection Under the Carceral State*, 112 Nw. U. L. Rev. 1337, 1345 (2018).
[28] McCleskey v. Kemp, 481 U.S. 279 (1987).
[29] *Id*. at 312.
[30] *Id*. at 328.
[31] *Id*. at 313.
[32] Boger, *supra* note 22, at 1678 ("*McCleskey* stands for the proposition that "courts should no longer entertain statistical cases demonstrating even strong patterns of discrimination, but only cases involving smoking gun confessions or individualized evidence of racial misconduct or malice."). Anthony G. Amsterdam, *Opening Remarks: Race and the Death Penalty Before and After* McCleskey, 39 COLUM. HUM. RTS. L. REV. 34, 55–56 (2007) ("conscious racial bigotry on the part of public officials is the sole significant form of government-supported racial inequality in this country today.").
[33] STEIKER & STEIKER, *supra* note 4 at 250-53.

research detailing racially disparate death penalty outcomes.[34] The original research presented in this Article reveals precisely such outcomes.[35]

II. *Expanding Death Penalty Data to Include Execution Outcomes*

Baldus's research is particularly well-known and revered,[36] and his findings have never been seriously contradicted[37], but his research certainly does not stand alone in documenting racial problems with the implementation of the death penalty. Numerous well-designed studies have documented similar racial disparities across the U.S.[38] The race of the victim consistently appears as a relevant factor in death

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[34] John J. Donohue, *Empirical Analysis and the Fate of Capital Punishment*, 11 DUKE J. CONST. L. & PUB. POL'Y 51, 106 (2016) [hereinafter Donohue].

[35] Baldus did not find a race of defendant effect at the sentencing stage. BALDUS ET AL., *supra* note 5 at 328. Our research does not reveal a race of defendant effect at the execution stage: 19.4% (13/67) of the condemned black defendants were executed, compared to 21.2% (11/52) of the condemned white defendants.

[36] *See, e.g.*, Evan Tsen Lee & Ashutosh Bhagwat, *The* McCleskey *Puzzle: Remedying Prosecutorial Discrimination Against Black Victims in Capital Sentencing*, 1998 SUP. CT. REV. 145, 147 (1998); Randall L Kennedy, McCleskey v. Kemp*: Race, Capital Punishment, and the Supreme Court*, 101 HARV. L. REV. 1388, 1398-1400.

[37] The Supreme Court accepted as valid Baldus's empirical methods, and so have most published reviews of Baldus's work. The notable exceptions tend to come from persons who place great stock in the district court's reasoning in the *McCleskey* case, which was not endorsed by either the court of appeals or the Supreme Court. Quoting a portion of the district court decision and treating it as conclusively undermining the Baldus research, one commentator starts an essay, "The best models which Baldus was able to devise which account to any significant degree for the major non-racial variables, including strength of the evidence, produce no statistically significant evidence that race plays a part in either [the prosecutor's or the jury's] decisions in the State of Georgia." Kent Scheidegger, *Rebutting the Myths About Race and the Death Penalty*, 10 Ohio St. J. Crim. L. 147, 147 (2012) (describing this as the "least-known holding from the best-known case on race and the death penalty"). There is good reason for the lack of knowledge of this reasoning from a trial court judge, as it is demonstrably mistaken. In his book, Baldus painstakingly responds to the challenges by Judge Forrester in Appendix B entitled: "McCleskey v Kemp: A Methodological Critique of the District Court's Decision," pages 450-78). Moreover, most scholars have found the critique of Baldus's research thoroughly unconvincing if you "happen to know something about the record in the case or about statistics." Gross, *supra* note 5, at 1913 ("most of the criticisms of Professor Baldus's research are unfair and inaccurate, and many of the statements about statistics are simply false, [thus] there is little reason to pay attention to the district court opinion."). *See also* SAMUEL R. GROSS & ROBERT MAURO, DEATH & DISCRIMINATION: RACIAL DISPARITIES IN CAPITAL SENTENCING 153 nn.20 & 21 (1989) (rebutting challenges to the Baldus methodology as unfair and unfounded). Gross has also noted that "[a] brief filed in the Supreme Court by several of the country's preeminent criminologists described the Baldus study as "among the best empirical studies on criminal sentencing ever conducted." Gross, *supra* note 5, at 1915–16 (positing that the reason the district court's methodological critique was not reiterated in the Supreme Court was that as the litigation proceeded, "it became increasingly clear that the Baldus study could not be rejected on its own terms."). Indeed, a careful reading of Justice Powell's majority opinion, and even Justice Scalia's notes on the case, suggest that the Justices recognized that Baldus's data showed a racial-disparity problem with the system, but regarded it as a problem that lacked a judicial remedy. Charlton, *supra* note 4 (quoting Thurgood Marshall Papers). *See also* Callins v. Collins, 510 U.S. 1141, 1153–54 (1994) (Blackmun, J., dissenting) ("A]s far as I know, there has been no serious effort to impeach the Baldus study. Nor, for that matter, have proponents of capital punishment provided any reason to believe that the findings of that study are unique to Georgia"); Gruber, *supra* note 30 at 1346 ("the district court decision reminds us that faith can always triumph over fact. Just as the extremely religious characterize evolution as a 'theory' that lacks exacting proof while simultaneously eschewing the need for evidence of creation, those with colorblind faith that criminal punishment is fair demand undeniable, ironclad, and, indeed, unobtainable proof of discrimination, while offering none that the system is just.").

[38] Donohue, *supra* note 37, at 85 (2016). *See, e.g.*, Meg Beardsley, Sam Kamin, Justin Marceau, & Scott Phillips, *Disquieting Discretion: Race, Geography & the Colorado Death Penalty in the First Decade of the Twenty-First Century*, 92 DENV. U. L. REV. 431 (2015*)*. David C. Baldus et al., *Arbitrariness and Discrimination in the Administration of the Death Penalty: A Legal and Empirical Analysis of the Nebraska Experience (1973-1999)*, 81 NEB. L. REV. 486, 590 (2002); Raymond Paternoster et al., *Justice by Geography and Race: The Administration of*

penalty research. For example, the Government Accounting Office conducted a review of the 28 research projects studying the relevance of race in death sentencing prior to 1990 and found that in 23 of the studies, "race of victim was found to influence the likelihood of being charged with capital murder or receiving a death sentence. . . .The finding was remarkably consistent across datasets."[39] Subsequent research has tended to confirm that persons convicted of killing white victims are more likely to be sentenced to death.[40] A team of scholars updated the GAO report in 2014 and found that of the 36 studies published after the GAO report, 24 studies had findings consistent with Baldus's, showing a race of victim effect.[41] In addition, Frank Baumgartner reviewed a set of studies that used regression to examine predictors of death sentences and found that "white victim is a powerful predictor in 14 of 18 studies."[42]

Notably absent from existing research is a parallel body of work regarding post-sentencing outcomes – that is, an examination of who among those sentenced to death is actually executed. Although there is a small academic literature focused on race and execution, existing studies have considerable limitations. Before turning to our precise methodology for rigorously testing the impact of victim race on post-sentencing outcomes, this section identifies the need for such research and provides a review of the existing literature on race and execution.

1. The Absence of Rigorous Data About the Impact of Race on Executions

In one of his final death penalty decisions, Justice Scalia seemed to assume that the imposition of the penalty was the one place where consistency and fairness could be taken for granted: "[Justice Breyer] says that the death penalty is cruel because it is unreliable; but it is *convictions*, not *punishments*, that are unreliable."[43] In fact, however, the imposition of the punishment may be the most arbitrary aspect of the current system.[44] While researchers have been tirelessly documenting the front-end problems associated

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the Death Penalty in Maryland, 1978-1999, 4 U. MD. L.J. RACE, RELIGION, GENDER & CLASS 1, 13-14 (2004); Glenn L. Pierce & Michael L. Radelet, *The Impact of Legally Inappropriate Factors on Death Sentencing for California Homicides: 1990-1999, The Empirical Analysis*, 46 SANTA CLARA L. REV. 1, 36-37 (2005). Similarly, research in Oklahoma has shown that persons in that state suspected of killing white victims, particularly white females, are much more likely to be sentenced to death. Their data show that there "is virtually no difference in the probability of a death sentence" based exclusively on the "race of defendant, with 3.2% of the white offenders sentenced to death and 3% of the non-white defendants," but the probability of being sentenced to death is twice as high for those charged with killing white victims. Glenn L. Pierce, Michael L. Radelet & Susan Sharp, *Race and Death Sentencing for Oklahoma Homicides 1990-2012*, 107 J. CRIM. L & CRIMINOLOGY 733, 747 (2017).

[39] GENERAL ACCOUNTING OFFICE, DEATH PENALTY SENTENCING: RESEARCH INDICATES PATTERN OF RACIAL DISPARITIES 3, 5, 6-6 (1990), http://archive.gao.gov/t2pbat11/140845.pdf.

[40] John Blume, Theodore Eisenberg & Martin T. Wells, *Explaining Death Row's Population and Racial Composition*, J. EMPIRICAL L. STUD. 165, 169 (2004).

[41] GROSSO, CATHERINE M., BARBARA O'BRIEN, ABIJAH TAYLOR, & GEORGE WOODWORTH, *Race Discrimination and the Death Penalty: An Empirical and Legal Overview*, *in* AMERICA'S EXPERIMENT WITH CAPITAL PUNISHMENT: REFLECTION ON THE PAST, PRESENT, AND FUTURE OF THE ULTIMATE PENAL SANCTION 525 (James R. Acker, Robert M. Bohm, and Charles S. Lanier eds., 3d ed. 2014).

[42] BAUMGARTNER, FRANK R., MARTY DAVIDSON, KANEESHA R. JOHNSON, ARVIND KRISHNAMURTHY, & COLIN. P WILSON, DEADLY JUSTICE: A STATISTICAL PORTRAIT OF THE DEATH PENALTY 18 (2018).

[43] Glossip v. Gross, 135 S. Ct. 2726, 2747 (2015) (Scalia, J., concurring).

[44] As Justice Breyer observed, there is data suggesting that as many as 75% of persons sentenced to death are not actually executed. "Consider, for example, what actually happened to the 183 inmates sentenced to death in 1978. As of 2013 (35 years later), 38 (or 21% of them) had been executed; 132 (or 72%) had had their convictions or sentences overturned or commuted; and 7 (or 4%) had died of other (likely natural) causes. Six (or 3%) remained on death row." *Glossip*, 135 S. Ct. at 2768 (Breyer, J., dissenting).

with capital sentencing systems[45], virtually no attention has been paid to the back-end question of who *actually gets executed*.

In a path-marking recent publication, death penalty scholar Lee Kovarsky has observed that there "are two American death penalties" and criticized what he views as the overly myopic focus of researchers on only the charging and sentencing phases.[46] Kovarsky has instructed scholars to direct their research to the reality that "death sentences and executions" are "legally and temporally distinct events" and has noted that "execution selection" has not been subject to a "controlled study" that could quantify the arbitrariness occurring at this stage of the death penalty system. He predicts that controlled studies would find pervasive arbitrariness in "execution selection." Our research validates Kovarsky's hypothesis.

To put this in context, the existing literature documents implicit bias infecting the work of prosecutors, police, jurors, and even public defenders.[47] John Donohue has noted that there is "an expansive empirical literature – analyzing numerous states across the country – presenting compelling evidence that race influences the death penalty decisions of *prosecutors and jurors*."[48] This bias is so well-documented that one might surmise that courts conducting an independent review of death sentences, as required under the Georgia system upheld in *Gregg*, would play an important role in mitigating arbitrariness in the imposition of the death penalty.[49] Courts and commentators have taken for granted the role of appellate review in reducing, if not eliminating arbitrariness and discrimination that undermines the sentencing process in capital cases.[50] By this logic, if juries and lawyers are producing death sentences tinged with disparate racial impact, the appellate courts can be trusted to ameliorate some of these unseemly results. But this Article shows that the opposite is true – the race of the victim effect is actually exaggerated by appellate judges reviewing cases and determining who is executed. This research undermines the conventional wisdom that prosecutors and jurors are primarily culpable for injecting implicit bias into the system.[51] Arbitrariness is exaggerated, not improved through appellate review.

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[45] *Supra* note 38.

[46] Kovarsky, *supra* note 9.

[47] Song L. Richardson, *Arrest Efficiency and the Fourth Amendment*, 95 Minn. L. Rev. 2035, 2039-45 (2011).

[48] Donohue, *supra* note 38, at 84 (emphasis added).

[49] To this day Georgia has retained a requirement of appellate proportionality review. GA. CODE ANN. § 17-10-35 (2019).

[50] Gregg v. Georgia, 428 U.S. 153, 206 (Stewart, J.) ("The provision for appellate review in the Georgia capital-sentencing system serves as a check against the random or arbitrary imposition of the death penalty. In particular, the proportionality review substantially eliminates the possibility that a person will be sentenced to die by the action of an aberrant jury.") See also Traci Smith, *The Outlier Case: Proportionality Review in State v. Rhines*, 42 S.D. L. REV. 192 (1997); Joseph T. Walsh, *The Limits of Proportionality Review in Death Penalty Cases*, DEL. LAW., Winter 2003-2004, at 13 ("proportionality review offers state appellate courts a theoretical non-federal mechanism for determining whether the death penalty has been arbitrarily imposed."); Penny J. White, *Can Lightning Strike Twice? Obligations of State Courts After Pulley v. Harris*, 70 U. COLO. L. REV. 813, 869 (1999) ("Proportionality review helps to reduce the risk of discrimination."); Brooks Emanuel, *North Carolina's Failure to Perform Comparative Proportionality Review: Violating the Eighth and Fourteenth Amendments by Allowing the Arbitrary and Discriminatory Application of the Death Penalty*, 39 N.Y.U. REV. L. & SOC. CHANGE 419, 421 (2015) (understanding the role of appellate review as eliminating "arbitrary and discriminatory death sentencing"). *See also* Pulley v. Harris, 465 U.S. 37, 55 (Stevens, J., concurring) ("some form of meaningful appellate review is an essential safeguard against the arbitrary and capricious imposition of death sentences").

[51] Implicit bias in policing is well-documented. *See, e.g.,* Stewart J. D'Alessio & Lisa Stolzenberg, *Race and the Probability of Arrest*, 81 SOC. FORCES 1381 (2003) (compiling sources); Joshua Correll et al., *The Police Officer's Dilemma: Using Ethnicity to Disambiguate Potentially Threatening Individuals*, 83 J. PERSONALITY & SOC. PSYCOL. 1314, 1328 (2002); L. Song Richardson, *Arrest Efficiency and the Fourth Amendment*, 95 MINN. L. REV. 2035, 2036 (2011). *See also* See L. Song Richardson & Phillip Atiba Goff, *Implicit Racial Bias in Public Defender Triage*, 122 YALE L. REV. 2626, 2632-34 (2013); John Tyler Clemons, *Blind Injustice: The Supreme Court, Implicit Racial Bias*,

What Kovarsky describes in qualitative terms—the arbitrary construction of "execution queues"—we demonstrate as an empirical matter by expanding and updating the most celebrated dataset in death penalty history. The sort of arbitrariness that was documented by Baldus in the realm of sentencing outcomes is significantly exacerbated when it comes to assessing who is actually executed.

2. Limitations of Prior Research Analyzing Execution Arbitrariness

Whereas research regarding *death sentencing* is vast, there are only a handful of studies that have examined the relationship between victim race and *execution* in the modern era.[52] The lacuna is rather surprising given that an execution is obviously the true culmination of a capital case. Yet the dearth of scholarship is also somewhat unsurprising because it takes several decades for a cabined set of death sentences to be fully resolved through execution or post-sentencing relief. Although prior studies have attempted to circumvent this empirical challenge by not waiting for a cabined set of cases to come to fruition, such an approach leaves open the question of whether the findings would change once the outcome of each case is settled.

The initial research on the topic was published by David Jacobs and colleagues in 2007 and examined execution outcomes for defendants who were sentenced to death between 1973 and 2002 in 16 states.[53] The authors note that "whether victim race continues to explain the fate of condemned prisoners after they have been sentenced remains *a complete mystery*."[54] Drawing on event history models, Jacobs found that black defendants who killed white victims had a higher risk of execution.[55] The study is a pivotal step toward analyzing executions and, importantly, controlled for key confounding variables at the case-level (whether the defendant had a prior conviction) and the state-level (including whether the defendant was sentenced to death in a Southern state, the state's racial composition, and the state's murder rate). However, the findings are limited in several ways. To begin, the researchers did not actually follow all the cases to a final resolution. Instead, the authors examined who happened to be executed between 1973 and 2002 among the defendants who were sentenced to death during that same period. While such an approach is standard with event history models, it is arguably problematic. Because the average time from crime to execution is more than a decade and rising,[56] some of the defendants in the Jacobs dataset were not executed during the study window but were executed later.[57] Put differently, the event history model has an inherent

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and the Racial Disparity in the Criminal Justice System, 51 AM. CRIM. L. REV. 689, 691 (2014) (compiling the research showing that while black and white Americans abuse and sell illegal drugs at similar rates, the black drug arrest rate more than quadrupled in the period from 1980 to 2000, while the white drug arrest rate remained virtually constant.).

[52] For pre-*Furman* studies regarding defendant race and execution see: Johnson, Elmer H., *Selective Factors in Capital Punishment*, 36(2) SOCIAL FORCES 165-169 (1957); Marvin E. Wolfgang, Arlene Kelly, and Hans C. Nolde, *Comparison of the Executed and the Commuted among Admissions to Death Row*, 53(3) THE JOURNAL OF CRIMINAL LAW, CRIMINOLOGY, AND POLICE SCIENCE 301-311 (1962); Hugo A. Bedau, *Death Sentences in New Jersey*, 1907-1960, 19 RUTGERS L.R. 1, 1 (1964). For post-Furman studies regarding defendant race and execution see: John Blume and Theodore Eisenberg, Judicial Politics, Death Penalty Appeals, and Case Selection: An Empirical Study, 72 S. CAL. L. R. 465, 503 (1992); Stephen J. Spurr, *The Future of Capital Punishment: Determinants of the Time from Death Sentence to Execution*, International Review of Law and Economics, 22:1-23 (2002). *See also* Michael L. Radelet & Margaret Vandiver, *The Florida Supreme Court and Death Penalty Appeals*, 74 J. CRIM. L. & CRIMINOLOGY, 913, 913-926. (1983)(examining the effect of race of the outcome of direct appeals).

[53] David Jacobs, Zhenchao Qian, Jason T. Carmichael, & Stephanie L. Kent, *Who Survives on Death Row? An Individual and Contextual Analysis*, 72 AM. SOC. REV. 610, 617 n. 8 (2007) (studying the following states: Arizona, California, Delaware, Florida, Georgia, Illinois, Kansas, Kentucky, Maryland, Missouri, New Jersey, Ohio, Tennessee, Texas, Virginia, and Washington).

[54] Jacobs, Qian, Carmichael, & Kent, *supra* note 57, at 611 (2007) (emphasis added).

[55] *Id.*

[56] https://deathpenaltyinfo.org/time-death-row

[57] *See* BAUMGARTNER ET AL., *supra* note 2, at 157 fig.8.1 (showing data on the average time from crime to execution).

limitation for this kind of research. It fails to provide an accurate reflection of who is executed because many of the persons sentenced to death have not had their appeals resolved with finality. Additionally, Jacobs's "non-execution" category merges immiscible cases: defendants who secured judicial relief and could not be executed, and defendants who remained on death row at the close of the study window and thus could be (and surely some have been or will be) executed. Once the cases of the death row inmates are fully resolved the racial disparities that Jacobs documented could burgeon, diminish, or even disappear.[58] Moreover, Jacobs study was missing data on the victim's race in 2,585 of the 3,597 "non-execution" cases. The authors acknowledge that missing data is a limitation and "hope that subsequent researchers can obtain more exhaustive information on victim race…"[59] Finally, unlike our study, Jacobs's research does not have any information about the proceedings leading up to a death sentence. Thus, Jacobs is unable to draw conclusions about whether racial disparities in execution exacerbated disparities from the sentencing phase or reversed them.

The next quantitative study of execution was conducted by Michelle Petrie and James Coverdill, who studied men sentenced to death in Texas from 1974 through 2009. Petrie and Coverdill's study represents a significant advance insofar as the researchers obtained race of victim data for almost all of the cases, controlled for confounding variables regarding the defendant's prior criminal record and the heinousness of the crime, and distinguished between "non-execution" cases where the defendant secured judicial relief and "non-execution" cases where the defendant remained on death row at the close of the study window.[60] However, the authors also employed an event history model, and so were unable to know with certainty how many of the condemned inmates would ultimately be executed. Notably, 350 of the 1,018 defendants in their dataset remained on death row in 2009 at the close of the study window.[61] Interestingly, the authors did not find any racial disparities in judicial relief or execution. Nonetheless, racial disparities in execution could emerge once the 350 death row cases are fully resolved. Focusing on the findings to date, Petrie and Coverdill conclude that Texas may have eliminated post-sentencing racial disparities in execution by limiting juror discretion, defining death eligibility more narrowly than most states, and executing a larger proportion of condemned inmates than most states.[62] Even if that turns out to be true, it is important to remember that the researchers did not have data about the sentencing phase. If the sentencing stage was marred by racial disparities, then such disparities remained unabated.

The final set of empirical studies regarding racial disparity in the post-sentencing phase of capital cases was conducted by a team of researchers led by Frank Baumgartner. In 2018, Baumgartner published research using an entirely different approach; he compared homicides in the United States from 1975 to

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[58] Petrie, Michelle A. & James E. Coverdill, *Who Lives and Dies on Death Row? Race, Ethnicity, and Post-Sentence Outcomes in Texas*, 57 SOC. PROB. 630, 633–34 (2010) (noting that two very different possibilities exist: blacks who killed whites are more likely to be executed, or blacks who killed whites are merely executed sooner).

[59] The authors have data on the race of the victim for all 548 execution cases, but are missing data on victim race in most of the non-execution cases. *See* Jacobs, Qian, Carmichael, & Kent, *supra* note 57 at 619 tbl.1, 626 (calculating from table) ("We nevertheless must acknowledge that we were forced to use advanced statistical techniques to overcome data limitations. Although there are good reasons to believe that the reported estimates are unbiased and consistent, superior data always are preferable to such statistical alternatives…In particular, we hope that subsequent researchers can obtain more exhaustive information on victim race…").

[60] To control for the heinousness of the crime, the authors considered whether the victim was vulnerable, whether the defendant killed multiple victims, and whether the crime also involved robbery, burglary, auto theft, abduction, or rape). Petrie & Coverdill, *Who Lives and Dies*, supra note 58, at 157.

[61] Like a Polaroid picture that is in the process of gradually developing, event history models present a picture that is incomplete or unclear.

[62] Petrie & Coverdill, *Who Lives and Dies*, *supra* note 58, at 646.

2005 with executions from 1976 to 2015.[63] Using this approach, the authors report that 51% of homicide victims were white, yet 76% of the defendants who were executed killed a white victim. In contrast, 46% of homicide victims were black, but only 15% of the defendants who were executed killed a black victim.[64] The conclusion is that defendants who killed white victims were over-represented among those who were executed, and defendants who killed black victims were under-represented. Using the same methodology, the authors found a similar pattern in: Alabama, Arkansas, Arizona, Florida, Georgia, Louisiana, Missouri, North Carolina, Ohio, Oklahoma, South Carolina, Texas, and Virginia.[65] Baumgartner's research is vitally important, as it provides a "big picture" overview of race-of-victim disparities in the modern era of the death penalty. Nonetheless, the strength of Baumgartner's research is also its limitation – the broad-brush inquiry precludes precision. For example, the nationwide homicide data include defendants who committed murder in states that did not have the death penalty. The nationwide homicide data also include defendants who committed murder in states that had the death penalty, but many of the defendants would not have been death-eligible. Thus, the authors compare homicides to executions, but many of the homicides could not possibly have given rise to an execution. In addition, the authors cannot determine the stage of the process that produced racial disparities (the execution stage could have amplified, ameliorated, or made no difference in the observed disparities). The temporal match between homicides and executions also remains imperfect, especially for recent homicides (a homicide that occurred between 2000 and 2005 would be unlikely to produce an execution by 2015). Finally, the researchers could not control for confounding variables. To be fair, the approach Baumgartner used is the only realistic strategy for examining nationwide patterns during the entire modern era of the death penalty – an issue worth addressing even if the answer is necessarily approximate.

The point is not to understate the importance of prior research; such studies shed light on an aspect of the death penalty that had been opaque. But we do attempt to build upon and substantially improve existing research on this topic. We focus only on death-eligible cases as determined by Baldus, and our research follows a cabined set of cases from sentencing through the final resolution: post-sentencing relief or execution. Moreover, we have complete race data for all the cases in our study, we controlled for numerous confounding variables including the heinousness of the crime, and we have documented how sentencing and execution contribute independently, and jointly, to racial disparities in capital punishment.

III. *Research Methods*

Baldus and others have documented racial disparities in the charging and sentencing phase of the death penalty process, but what happens after one is sentenced to death?[66] The research design for this project was borne out of a simple but under-appreciated observation: Not everyone sentenced to death will die at the hand of the executioner. Indeed, it has been estimated that nationwide about a quarter of the persons sentenced to death are actually executed[67], and our data shows that in Georgia during the period of the Baldus Study, less than 20% of the persons sentenced to death were actually executed (24/127).

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[63] BAUMGARTNER ET AL., *supra* note 2; Frank R. Baumgartner, Amanda J. Grigg, & Alisa Mastro, *#BlackLivesDon'tMatter: Race-of-Victim Effects in US Executions, 1976–201*3, 3 POLITICS, GROUPS, AND IDENTITIES 209 (2015); Baumgartner, Frank R., Emma Johnson, Colin Wilson, and Clarke Whitehead, *These Lives Matter, Those Ones Don't: Comparing Execution Rates by the Race and Gender of the Victim in the U.S. and in the Top Death Penalty States* 79 ALBANY LAW REVIEW 797 (2015); Frank R. Baumgartner & Tim Lyman, *Race-of-Victim Discrepancies in Homicides and Executions, Louisiana 1976-2015*, 17 LOY. J. OF PUB. INT. L. 129 (2015).

[64] BAUMGARTNER ET AL., *supra* note 2, at 72.

[65] Baumgartner, Johnson, Wilson, & Whitehead, *supra* note 67; Baumgartner & Lyman, *supra* note 67.

[66] Kovarsky, *supra* note 9, at 17 (noting that to date researchers have failed to "quantify arbitrariness [at this stage] through a controlled study").

[67] BAUMGARTNER ET AL., *supra* note 2, at 140.

To put the matter bluntly, executions are exceedingly rare even among those sentenced to death, and this introduces the possibility of discrimination or other forms of arbitrariness. The question we set out to answer was whether appellate courts are effectively mitigating any sentencing-level arbitrariness by ensuring that only the worst of the worst are actually executed. That is, could the arbitrariness documented at the sentencing phase of capital cases be ameliorated by reasoned appellate review. Using the Baldus dataset of persons sentenced death in Georgia, and expanding it to include actual executions, we are able to assess whether appellate review did in fact have this salutary effect. Our selection of this dataset was based on the fact that, unlike all prior research on this question, the dataset contains a closed set of persons who were sentenced to death, and for whom enough time has passed that we can determine the final resolution of their cases.[68]

1. Expanding Baldus's Charging and Sentencing Study to Assess Execution Arbitrariness

To answer the question of whether condemned defendants who killed a white victim were more likely to be executed, we procured and expanded the data from Baldus's original Charging and Sentencing Study (CSS). The CSS includes a random sample of defendants who were indicted and subsequently convicted for murder or voluntary manslaughter in Georgia between 1973 and 1979. Importantly, though, Baldus modified the research design to "ensure full coverage of death-sentence cases," and thus the CSS includes *all* the defendants who were sentenced to death—the population of 127 condemned defendants (the CSS is described in detail below).

In order to assess whether race impacted the actual selection of who was executed, we updated the CSS with new data regarding executions. Specifically, we set out to ascertain who among the 127 defendants sentenced to death was actually executed. This relatively simple sounding question proved quite challenging, as the publicly available version of Baldus's data is anonymized such that individual cases are identified only by the defendant's study number. Accordingly, in order to determine who was executed, we had to recreate Baldus's list of condemned defendants by de-anonymizing his data, a process that involved several steps.

To begin, we contacted the National Death Penalty Archive housed at the University at Albany (the custodian of Baldus's records). Unfortunately, some of Baldus's records were apparently lost prior to being shipped or in transit to the archive, and the archive's librarian was only able to provide a partial list of the names associated with the study numbers. From this list we were able to match study numbers to names for 100 of the defendants in question. The following protocol was used to identify the remaining 27 defendants who had been sentenced to death:

- Relying on the CSS data, we created a spreadsheet that included the following clues regarding the condemned defendant's identity: date of offense, date of arrest, date of sentencing, defendant's age at sentencing, county of conviction, and indictment number.[69]
- Next we filed open records requests with local prosecutor offices in the relevant counties to ascertain the names of defendants based on the indictment number from the CSS data.
- If the prosecutor's office was unable or unwilling to provide the name of a defendant[70], then we conducted internet searches using different combinations of terms associated with a particular

[68] Kovarsky, *supra* note 9, at 18 ("The most viable way to conduct such a study would be to modify the datasets used for famous state-level studies of sentencing.").
[69] The authors are willing to make this spreadsheet available to future researchers upon request.
[70] In most instances, the prosecutor's offices were unhelpful. Open records requests were substantially helpful in only four cases: Dennis Dick, Emma Ruth Cunningham, James Cunningham Jr., and Joseph Wilson Jr.

defendant (e.g., the name of the state, the name of the county, relevant dates, and relevant terminology such as "murder" and "death sentence").

- The internet searches led us to newspaper articles and court reporter citations that included a potential way of identifying the anonymous person listed in Baldus's dataset. Once a potential name was identified, we searched reported cases on Lexis and Westlaw to corroborate that the information from the case matched the information from the CSS.[71]
- Finally, to confirm the identity of the defendant, we cross-referenced *Death Row USA* (a quarterly report by the NAACP's Legal Defense and Education Fund that tracks defendants admitted to death row in each state) to verify that we had properly de-anonymized the Baldus data.[72]

Having identified the names of the 127 condemned defendants, we sought to determine which of the defendants were actually executed. Determining the outcome was straightforward in most cases based on the appellate record and an official list of executions provided by the Georgia Department of Corrections.[73] In a few instances, the ultimate resolution of a case was unclear based on the published judicial records. In these cases, we conducted additional investigation by filing open records requests, submitting inquiries to the Georgia Resource Center, and calling former defense attorneys. Ultimately, we succeeded in gathering the information for all 127 of the persons sentenced to death.

Our research revealed that of the 127 persons sentenced to death, 95 defendants were granted relief and 24 defendants were executed (see Appendix A). There were eight cases for which relief was not granted, but for which an execution also did not occur. Specifically, our research revealed that five of the men sentenced to death eventually died of natural causes while on death row.[74] One defendant, Troy Gregg, the litigant whose death sentence was affirmed in *Gregg v. Georgia*, escaped from death row and was beaten to death in a bar fight.[75] In addition, one defendant was executed by the state of Virginia (Buddy Earl Justus) before he was scheduled for execution in Georgia; and one defendant remains on Georgia's death row at the time of writing (Virgil Delano Presnell).[76]

The eight defendants in question cannot be included in our execution analysis because the ultimate resolution of the case was outside of the justice system—there was neither judicial or executive relief nor an execution. Thus, our analysis of executions among defendants who were sentenced to death includes 119 defendants (127 minus 8). Using the revised denominator of 119 death sentences, the rate of executions is still roughly 20% (24/119).[77]

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[71] The information in Baldus's dataset was compared to the information we found about a particular named defendant. For example, we would cross reference the date of the offense, date of arrest, date of sentence, and county of conviction for the defendant anonymously identified in Baldus's dataset and the individual we had predicted was a match based on the internet research.

[72] Specifically, we verified that the defendant we identified had been added to the NAACP's death row list in the report issued immediately after the sentencing date.

[73] We acquired the list of executions through an open records request (the list is available upon request from the authors).

[74] Those five are William B. Campbell, Garnet William Cape, Son H. Fleming, Jack Potts, and Bob Redd.

[75] ROBERT M. BOHM, DEATHQUEST: AN INTRODUCTION TO THE THEORY AND PRACTICE OF CAPITAL PUNISHMENT IN THE UNITED STATES 264 (5th ed. 2016).

[76] In our cabined set of cases, Presnell is the only case that has not reached a final resolution. However, he killed a white victim. If he is ultimately executed, then the key findings we present regarding the impact of victim race on execution would only be strengthened.

[77] If we examine executions among all the defendants convicted of homicide in the data, then our models include 2475 defendants (2483 minus 8). The execution rate among all defendants, then, is roughly 1% (24/2475).

2. ***Elaborating Baldus's Charging and Sentencing Study: Random Samples, Populations, and Statistical Significance***

The Baldus data are a hybrid – part random sample, part population.[78] Specifically, the CSS includes a stratified random sample of 1066 defendants selected from the population of 2483 defendants[79] (to generalize from the sample to the population the researchers used inverse probability sampling weights[80]). However, the CSS also includes the population of defendants who were sentenced to death – the census of 127 condemned defendants.[81] As previously noted, our study examines the entirety of 119 condemned defendants who were executed or secured relief.[82]

Without delving too deep into the quantitative morass, we will first pause because the hybrid nature of the data justifies a brief discussion of statistical significance. Statistical significance does not signify whether a relationship is "big" or "important."[83] Instead, tests of statistical significance indicate the probability (*p*-value) of observing a relationship in a random sample if no relationship exists in the population.[84] To illustrate the meaning of statistical significance, consider Baldus's findings. Baldus found a strong relationship between victim race and sentencing in the random sample: 10.92% of the defendants who killed a white victim were sentenced to death, compared to just 1.33% of the defendants who killed a black victim. The *p*-value for the model is less than .001. Thus, the chance of finding such a substantial difference in the random sample if no difference exists in the population is less than .1%. Given the miniscule *p*-value, Baldus rejected the null hypothesis – that is, the hypothesis that the imposition of a death sentence is unrelated to the race of the victim in the population. Nonetheless, a Type I error – rejecting a

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[78] *See* DAVID KNOKE & GEORGE W. BOHRNSTEDT, STATISTICS FOR SOCIAL DATA ANALYSIS 15-16 (1994) (defining a population as "the entire set of persons, objects, or events that have at least one common characteristic of interest to a researcher" and a random sample as a subset of cases from the population in which each case from the population "is given an equal chance of being included in the sample.").

[79] BALDUS ET AL., *supra* note 6, at 2–3, 45–46, 67–68 n.10. Baldus treats all the defendants in the sample as death eligible. *Id.* 71–72 n. 38.

[80] *Id.* at 67–68 n.10. Each case is weighted as the inverse of its probability of being included in the sample. If, for example, a case has a 1 in 3 chance of being included in the sample then it is weighted as 3 cases.

[81] *Id.* at 429. The weighted Baldus data include 2,484 defendants of whom 128 were sentenced to death. *Id.* at 314–15, tbl.50. However, closer inspection of the data reveals that 127 defendants were actually sentenced to death. *Id.* at 45. The discrepancy occurs because 122 of the condemned defendants were weighted as 1 case and 5 of the condemned defendants were weighted as 1.2 cases: (122) (1) + (5) (1.2) = 128. We weighted each condemned defendant as 1 case (in other words, the condemned defendants are not weighted). Thus, we examined 2,483 defendants of whom 127 were sentenced to death. We did so because the Baldus data include the population of death sentences, so weights are unnecessary for the condemned defendants. Nonetheless, Table 1 in Appendix C includes 2,484 weighted defendants (and 128 death sentences) because it is an exact replication of Baldus's core death sentence model.

[82] *Supra* notes 77-79 (explaining that the majority of the 8 cases that did not result in executions or relief were deaths by natural causes while on death row).

[83] Wasserstein, Ronald L. and Nicole A. Lazar, *The ASA's Statement on p-Values: Context, Process, and Purpose*, 70 THE AMERICAN STATISTICIAN 129, 132. (2016) ("A p-value, or statistical significance, does not measure the size of an effect or the importance of a result.").

[84] In technical language, tests of statistical significance indicate the probability of producing a sample statistic as extreme as (or more extreme than) the observed sample statistic if the null hypothesis (no relationship in the population) is true. DENTON E. MORRISON & RAMON E. HENKEL, THE SIGNIFICANCE TEST CONTROVERSY 184 (1970) ("The significance level that results from the comparison gives the relative frequency (probability) with which a sample statistic of the obtained size or more extreme size would be expected to occur over repeated trials (samples) utilizing the same probability sampling method on the same population if the hypothesized value for the population parameter (null hypothesis) were true.").

null hypothesis that is true – remains possible. The chance that Baldus drew a misleading random sample is vanishingly small, but it is not zero (a *p*-value cannot be zero because sampling error remains possible).[85]

Indeed, a researcher can only be *certain* that observed differences are real if one has data on the population.[86] Here, we have data on the population of defendants who were sentenced to death in the place and period in question. Because our execution models examine the census of condemned defendants, we can be certain that any observed racial disparities are real (as opposed to the product of sampling error).[87]

If an analysis examines a random sample of cases, then reporting tests of statistical significance is appropriate. However, if an analysis examines an entire population of cases, then reporting tests of statistical significance is inappropriate.[88] Accordingly, we report statistical significance for models based on Baldus's sample data (the stratified random sample of 1066 cases weighted to 2483 cases), but we do not report statistical significance for models based on Baldus's population data (the census of 119 condemned defendants who were executed or secured relief). Put differently, statistical significance is a concept without relevance in models that examine population data. So we focus on an issue that is relevant: describing the magnitude of racial disparities in the population of condemned defendants.[89]

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[85] WILLIAM FOX, SOCIAL STATISTICS: AN INTRODUCTION USING MICROCASE 110 (1995) ("The fact that statistical significance is based on probability means that we can never be absolutely certain we are right when we either reject or fail to reject a null hypothesis. After all, we never know for sure from sample data whether or not two variables are related in the population. Only population data can tell us that with absolute certainty. Errors are always possible with sample data because our sample may be unrepresentative. Even random sampling can result in an unrepresentative sample.").

[86] FOX, *supra* note 87, at 110 (noting that "only population data can tell us with absolute certainty" whether two variables are related).

[87] Andrew A. Anderson, *Assessing Statistical Results: Magnitude, Precision, and Model Uncertainty*, 73 THE AMERICAN STATISTICIAN 118, 119 (2019) ("A statistic is an approximation to an unknown population parameter based on a random subsample from that population. Statistics generally differ from true population values: the average height of five randomly selected female professional basketball players is unlikely to exactly equal the average height of all female professional basketball players. Given data from the entire population, there would be no sampling uncertainty."). Charles D. Cowger, *Author's Reply*, 59 SOCIAL SERVICE REVIEW 520, 520–21 (1985) ("If you have a total population, you have no sampling error...").

[88] *See* Charles D. Cowger, *Statistical Significance Tests: Scientific Ritualism or Scientific Method?*, 58 SOC. SERV. REV. 358, 366 (1984) ("Significance tests are not only inappropriate when applied to a total population but are unnecessary since the probable relation of a sample and a population is defined as unity when they are the same."). Athena Engman, *Is There Life After P < 0.05? Statistical Significance and Quantitative Sociology*, 47 QUALITY & QUANTITY 257, 265 (2013) ("Another erroneous use of statistical significance…is the application of statistical significance tests to samples that equalled the population."). FOX, *supra* note 87, at 118 (1995) ("But when we have population rather than sample data, tests of significance are of questionable utility. If we have information about all the cases in the population…then there is no population to which we need to generalize, and tests of statistical significance have little purpose. We already know about the population, so there is no need to generalize to it."). Still, some have suggested that reporting tests of statistical significance is appropriate for population data, as the population can be conceptualized as "a random sample from a hypothetically infinite universe of possibilities" HUBERT M. BLALOCK, SOCIAL STATISTICS 270 (1970). Morrison and Henkel disagree with Blalock's logic: "Are some or all of the specific benefits of probability sampling available regardless of whether the sample is a probability sample? We doubt it. Statistical inference depends on a statistical theory, but to be applicable the theory also depends on certain empirical operations in research. To ask whether a given result could be generated by a random process model in the absence of a random process in the generation of the data is simply to raise an irrelevant question; an absolutely crucial feature of the application of the model is missing." MORRISON & HENKEL, *supra* note 86, 190 (1970). Setting the theoretical debate aside, we are not interested in a "hypothetically infinite universe of possibilities." Rather, we are interested in what actually happened to the defendants who were sentenced to death in the place and period in question.

[89] Kenneth A. Bollen, *Apparent and Nonapparent Significance Tests*, 25 SOCIOLOGICAL METHODOLOGY 459, 467 (1995) ("Researchers have several options when analyzing apparent populations. One is to treat the data as a census

IV. *Results: Is There an Execution-Selection Effect?*

A. *Unadjusted Race of Victim Disparities*

Baldus's research showed that the race of the victim was highly predictive of who would be sentenced to death. Baldus's original findings are reproduced in Table 1, Panel A. To reiterate the central finding, a death sentence was imposed in 10.92% (107/980) of cases with a white victim compared to 1.33% (20/1503) of cases with a black victim ($p \leq .001$).

Table 1. The Floor: Unadjusted Disparities Based on Baldus's Original Data[1]

	Panel A: Death Sentence[2]		***Panel B: Execution Given Death Sentence[3]***		***Panel C: Overall Execution Rate[4]***	
	Number of Actual Death Sentences / *Number of Possible Death Sentences*	*Percent*	*Number of Actual Executions* / *Number of Possible Executions*	*Percent*	*Number of Actual Executions* / *Number of Possible Executions*	*Percent*
White Victim	107 / 980	10.92%	22 / 99	22.22%	22 / 972	2.26%
Black Victim	20 / 1503	1.33%	2 / 20	10.00%	2 / 1503	.13%
Ratio WV / BV					2.26337449 / .1330672 = **17.01**	

Notes:
[1] In this table, Hance is coded as killing a black victim (Baldus's original coding).
[2] $p \leq .001$; chi-square = 72.22 with 1 DF (percentages are based on the weighted data, but chi-square is based on the unweighted data because it assumes independent observations).
[3] We do not present a test of statistical significance because the calculation is based on population data (see text for discussion).
[4] $p \leq .001$; chi-square = 18.33 with 1 DF (percentages are based on the weighted data, but chi-square is based on the unweighted data because it assumes independent observations).

By updating the CSS data, we were able to examine whether the race of the victim predicts not only who will be sentenced to death, but also who will be executed. The disparities found by Baldus at sentencing would expand if defendants who killed a white victim were disproportionately executed; the sentencing disparities would contract if defendants who killed a black victim were disproportionately executed; and the sentencing disparities would remain the same if defendants who killed white victims and black victims were executed in equal proportions. Table 1, Panel B, reveals what actually occurred.

of the population and to report descriptive statistics…The important point is that no inference is being made so that significance tests are not appropriate.")

- Among defendants who were sentenced to death for killing a white victim, 22.22% (22/99) were executed.
- Among defendants who were sentenced to death for killing a black victim, 10% (2/20) were executed. [90]

These findings reveal a racially disparate execution-selection effect: the problematic disparity discovered by Baldus is exacerbated at the execution stage.[91] Even among those already sentenced to death, persons who were convicted of killing a white victim were more than twice as likely to be executed.

Moreover, considered in context, the updated CSS data present an even more startling picture of racial disparity. To discern the overall racial disparities from sentencing through execution, we combined the data from the penultimate stage of a death penalty case (sentencing), as compiled by Baldus, and the ultimate stage of a capital case (executions), as compiled by us. Table 1, Panel C, shows these aggregated findings. Specifically, it shows that 2.26% (22/972) of the defendants who killed a white victim were executed, compared to just .13% (2/1503) of the defendants who killed a black victim ($p \leq .001$). Put differently, the overall execution rate is about 17 (2.26/.13) times greater for defendants who killed a white victim.[92]

To make this disparity more tangible, it is useful to imagine the execution outcomes in Georgia if persons convicted of killing black victims had been executed at the same rate as persons who killed white victims. If persons convicted of killing black victims had been executed at the same rate as persons who killed white victims (2.26%), then Georgia would have executed an additional 32 individuals from our dataset since 1980.[93] Alternatively, if persons convicted of killing white victims had been executed at the same rate as persons convicted of killing black victims (.13%), then Georgia would have carried out 21 fewer executions of individuals in our dataset over the same period.[94] Whether the number of executions is leveled-up to the white-victim rate, or leveled down to the black-victim rate, the difference is substantial.

In sum, the racial disparities that Baldus discovered at the sentencing stage of Georgia's death penalty system are exacerbated at the execution stage. Ours is the first study to examine actual cases from sentencing through execution (as opposed to the more conjectural event history models deployed by prior research), and we show conclusively that defendants who killed a white victim were more likely to be sentenced to death *and* more likely to be executed.

1. ***Unadjusted Race of Victim Disparities: Worse than it Appears?***

There are a number of reasons to believe that the findings reported above actually understate the impact of the race of the victim on execution rates. While it is true that the execution rate is 17 times greater

[90] We did not find a race of defendant effect at the execution stage, *supra* note 35.
[91] While staggering, we note that mere "associations between racial characteristics" and execution rates does not "establish that racial factors actually influenced the system." BALDUS ET AL., *supra* note 6, at 141. Accordingly, we studied the race effects after adjusting for a variety of factors as explained in the next section.
[92] Baldus calculated the death sentence rate in the same manner. *See* BALDUS ET AL., *supra* note 6, 314—15.
[93] This figure is derived as follows: If 2.26% of the 1,503 cases with a black victim had produced an execution then 34 executions would have been carried out. Given that two executions actually occurred in black victim cases, 32 additional executions are required to reach parity.
[94] This figure is derived as follows: If .13% of the 972 cases with a white victim had produced an execution then 1 execution would have been carried out. Given that 22 executions actually occurred in white victim cases, 21 fewer executions are required to reach parity.

in white victim cases, a few qualitative elaborations are provided below which suggest that this figure understates the race disparities when it comes to actual executions.

a. The details of the two persons executed for killing a black victim

Out of the 1,503 cases with black victims, Baldus found that only 20 defendants were sentenced to death.[95] Our updating of the Baldus data reveals that only 2 of those persons were executed: William Henry Hance and Joseph Holcombe Mulligan. Given that our research was aimed at understanding the operation of arbitrariness in the death penalty system, we wanted to know what made these two cases stand out from the entire dataset of death-eligible persons who had killed a black victim. Thus, we engaged in additional research regarding the facts surrounding the Hance and Mulligan cases. Our research revealed that both of these cases are unique.

In the case of Mulligan, he killed two persons, a U.S. Army Captain and the Captain's girlfriend. At first blush, the fact that the killing was of a captain in the armed forces seems irrelevant—the point is simply that he killed a person in a manner or for reasons that were sufficiently culpable so as to warrant the death penalty. As one leading retributivist scholar has explained, "I think victims should and must be ignored if you are claiming to be doing retributive theory."[96] Indeed, the "assumption that victim characteristics don't figure in the calculus of blame is typical of the field."[97] But the reality is that the "doctrine and practice of criminal law reflect a moral outlook in which judgments of wrong and blame are based in part on" concerns such as the status or vulnerability of the victim.[98] So it warrants emphasis that one of the only two men executed for killing a black victim was executed for the killing of a person with considerable social status, an officer in the U.S. armed forces.[99] What is more, it was a double homicide.

The only other defendant who was executed for killing a black victim was William Henry Hance, a soldier at Fort Benning in Columbus. Hance was sentenced to death for the murder of Gail Jackson, a

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[95] Baldus dataset consisted of 1,066 cases, which included 521 white victims and 545 black victims. BALDUS, WOODWORTH & PULASKI, *supra* note 6. Importantly, Baldus used inverse probability sampling weights. So, for example, if a particular case had a 1 in 3 chance of being included in the random sample then that case counts as 3 cases. Once the sample weights are applied, the number of cases increases from 1,066 to 2,483. Focusing on the 2,483 cases, the data include 980 white victims and 1,503 black victims.

[96] Michael Moore, *Victims and Retribution: A Reply to Professor Fletcher*, 3 BUFF. CRIM. L. REV. 65, 67 (1999).

[97] Joshua Kleinfeld, *A Theory of Criminal Victimization*, 65 STAN. L. REV. 1087, 1090 (2013).

[98] *See* DONALD BLACK, THE MANNERS AND CUSTOMS OF THE POLICE 14–16 (1980) (noting the likely differential interest in a case with a "high status" victim). *See also* Scott Phillips, *Status Disparities in the Capital of Capital Punishment*, 43 L. AND SOC'Y REV. 807, 837 (2009). Scott Phillips and Mark Cooney, *The Electronic Pillory: Social Time and Hostility Toward Capital Murderers*, 49 LAW AND SOC'Y REV. 725, 759 (2015).

[99] Kleinfeld, *supra* note 99, at 1124 (noting that it is unseemly and largely unheard of for crimes against "drug dealers or prostitutes" to be explicitly downgraded in codified law, but explaining that this "sort of downgrading tends to show up in the practice of criminal law rather than the doctrine."). Kleinfeld theorizes that the critical assessment is "victimization" such that certain classes of victims, such as children and those who do not themselves have prior criminal records and who are not drug users are the most likely to gain priority status within the justice system. *Id.* at 1128 ("A wealthy, middle-aged professional might be high social status but low victimization, for example."). *Id.* at 1137 ("Interviews with capital jurors show that the vulnerability and innocence of victims move their decisions for life or death."). Even under Kleinfeld's theory that the degree of victimization is the best predictor of a sentencing outcome, it is notable that Mulligan and his girlfriend did not have a particularly high degree of victimization, they were romantically involved even though Captain Doe was actually married to Mulligan's sister. Indeed, the Captain and his brother-in-law (Mulligan) had argued repeatedly about the Captain's plans to divorce Mulligan's sister. Likewise, the victim in the lone other case resulting in an execution when the victim was black, the Hance case, the victim was a prostitute. *Id.* at 1147.

black female prostitute (also known as Gail Faison).[100] However, Hance killed two more women during the same crime spree: Irene Thirkield who was black, and Karen Hickman who was white.[101] On April 5, 1978, Columbus authorities issued a warrant for Hance in the Gail Jackson case; her body was found just off the military base and thus fell under state jurisdiction. But Hance was already suspected of killing Irene Thirkield and Karen Hickman whose bodies were found on the military base, and thus fell under military jurisdiction.[102] Indeed, by April 7 the Columbus Ledger reported that Hance had confessed to all three murders: "Hance allegedly has admitted to investigators he brutally beat to death Miss Faison, Irene Thirkield, and Private Karen Hickman." The local newspaper continued: "Hance also allegedly admitted to making the phone calls to military police headquarters telling them where to find…Miss Hickman's clothing."[103] By May 2, the Hickman investigation was essentially closed: "While authorities are still officially investigating the Hickman case, it has been linked to the 'Forces of Evil' killing of a Columbus woman, Gail Faison. Specialist 4 William Hance was charged with Miss Faison's death."[104] Supporting the notion that killing a white victim often triggers a particularly robust response, the Hickman murder led to a nationwide manhunt. The Columbus Ledger noted: "The Hickman investigation, a baffling web that involved questioning hundreds of persons, became a nationwide effort over the past six months. CID agents combed almost every city or military post where the Omaha, Nebraska native lived."[105] Given the timing of events, media coverage, and the intense search for Hickman's killer, the state prosecutor surely knew that Hance had killed a white woman serving in the military when he decided to seek the death penalty against Hance for killing a black prostitute. Potential jurors in Columbus who had been paying attention also would have known that Hance killed Hickman. In December 1978, Hance was convicted and sentenced to death in state court for the murder of Gail Jackson.[106] In June 1979, Hance was convicted of the Irene Thirkield and Karen Hickman murders in military court.[107] Hance's state death sentence was subsequently overturned, but he was resentenced to death in 1984[108] in a proceeding that appeared to be tainted with racial bias.[109]

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[100] Hance's victim also fails under Kleinfeld's theory of victimization. Hance's victim was a prostitute. Kleinfeld, *supra* note 117, at 1124. (*"*Empirically, the basic victimization/gender pattern appears to be this: where victims are female, punishments are much harsher and arrests may be more likely than where victims are male (even in cases of wrongful accidents and even after controlling for factors like victim provocation or aggression), unless the female victim has a prior intimate link to the offender or is a prostitute, in which case arrests are less likely and punishments substantially more lenient.").

[101] Ayres, B. Drummond. April 7, 1978. "Police Certain They Have Solved 4 Georgia Slayings." New York Times. Page A28.

[102] Einhorn, David and Joliene Hutto. April 5, 1978. "Man Held in FOE Killings." The Columbus Ledger. Pages A1-A2.

[103] Hutto, Joliene and David Einhorn. April 7, 1978. "Suspect in FOE Killing Indicted by Grand Jury." The Columbus Ledger. Pages A1-A2.

[104] May 2, 1978 (staff). "Husband Arrested in Slaying." The Columbus Ledger. Page B4.

[105] Hutto, Joliene and David Einhorn. April 7, 1978. "Suspect in FOE Killing Indicted by Grand Jury." The Columbus Ledger. Pages A1-A2.

[106] Kahaner, Larry. December 17, 1978. "Hance Given Death Penalty." The Columbus Ledger. Pages A1-A2.

[107] June 8, 1979 (AP). "Hance Guilty in 'Forces of Evil' Slayings." The Atlanta Constitution. Page 1C.

[108] There is a pending open record request for the trial transcripts from Hance's re-sentencing in 1984.

[109] Hance v. Zant, 981 F.2d 1180, 1181 (11th Cir. 1993). *William Henry Hance executed in Georgia*, UPI ARCHIVES (Mar. 31, 1994), https://www.upi.com/Archives/1994/03/31/William-Henry-Hance-executed-in-Georgia /8047765090000/. The lone black juror on Hance's jury, Gayle Lewis Daniels, claimed she had never actually voted for the death penalty and had voted "yes" during the polling of the jury out of fear. Bob Herbert, *In America; Jury Room Injustice*, N.Y. TIMES (Mar. 30, 1994). The Supreme Court denied certiorari when Hance sought relief, but three Justices dissented from the denial and wrote that "[t]here is reason to believe that his trial and sentencing proceedings were infected with racial prejudice." Hance v. Zant, 511 U.S. 1013, 1013 (1994) (Blackman, J., dissenting in denying certiorari).

It is clear that if the three homicides had been joined in a single trial, then the failure to code this as a white-victim case would have been an error. In a technical sense, Hance was sentenced to death and executed for the "case" of a black victim, Gail Jackson. In a practical sense, Hance's "case" included three victims who were killed in the same manner during a crime spree, one of whom was a white woman. Considering the facts outlined above, we believe it is appropriate to treat Hance as a white-victim case. Such a conclusion is consistent with social science research which has shown that executing an offender for a transgression against a "different victim" is not unprecedented.[110]

The obvious question is whether coding the Hance case as a black victim was an error on the part of the Baldus team. Perhaps the law students who collected the demographic data did not know that Karen Hickman was white. In support of this theory, the research material compiled by Baldus includes a profile for Hance that identifies Gail Jackson as black, but describes the remaining victims without noting their names or races.

Alternatively, it is possible that there was not a coding error but simply a gap in the research protocol as applied to the unique circumstances of Hance's case. We think this is likely the best explanation for the coding of the Hance case. Baldus's research protocol specified that if a case included "one or more white victims," then the victim's race should be coded as white.[111] The protocol specifies how the race of the victim should be coded "in any case" in which there are multiple victims. For example, a case with two victims—one black, one white—is coded as a "white victim." Such a protocol is consistent with other research in the field[112] and appropriately tailored to Baldus's central research question: Does the presence of a single white victim increase the likelihood of a death sentence? But read literally, the protocol – "in any case" – excludes the Hance execution from being considered as one that arises out of a "case" with one or more white victims, because in the "case" for which he was executed, there was only one victim – and she was black. Stated differently, Baldus's research protocol only applies when there are multiple victims in a single case, and because Hance killed a white victim in a case separate from the one that resulted in his sentence of death and execution, perhaps the protocol simply did not allow Hance to be coded as a white-victim case. Hance appears to be the only such scenario in the Baldus data.[113]

In any event, whether Hance reflects a gap in the research protocol or a one-off coding error, it seems appropriate to treat it as a white-victim case for the purposes of our analysis. We make this point, not to artificially bolstering our findings, but to be as precise as possible and to demonstrate that Baldus's original data probably underestimate race of victim disparities in death sentencing and execution.

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[110] In 1989, Michael Radelet examined 15,978 executions in American history from 1608 until the late 1980s. He identified 30 white offenders who were executed for killing a black victim. What explains such anomalous executions? In 10 of the 30 cases, the offender had also harmed a white victim: eight offenders killed a slave and therefore harmed the slave's white owner; two offenders were accused of killing a white victim but could not be prosecuted for the crime.

[111] BALDUS ET AL., *supra* note 6, at 320, 456; DAVID C. BALDUS, GEORGE WOODWORTH, AND CHARLES A. PULASKI JR , CHARGING AND SENTENCING OF MURDER AND VOLUNTARY MANSLAUGHTER CASES IN GEORGIA, 1973-1979 at 85 (Ann Arbor, MI: Inter-university Consortium for Pol. and Soc. Res. 9264, 2001), https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/9264 [hereinafter CHARGING AND SENTENCING].

[112] Sherod Thaxton, *Disentangling Disparity: Exploring Racially Disparate Effect and Treatment in Capital Charging*, 45 AM. J. CRIM. L. 95, 146 (2018) ("Consistent with prior research, cases with at least one Caucasian victim were coded as having a Caucasian victim for the purposes of this study.").

[113] That there is no discussion of this possible discrepancy with the protocol by Baldus or other researchers is not surprising because the Hance case is highly unusual. Indeed, other researchers have documented that about 1% of Georgia cases involve multiple victims of different races. *Id.* Of Georgia cases in the Baldus dataset, 17% had multiple victims and "7.6% of those multiple-victim cases involved victims of different races." A case with multiple victims of different races handled in state court and military court is likely a class of one.

To put the Hance case in context, it is important to reflect on how rare it is for persons to be executed for killing a single black prostitute and no additional victims. Such executions are exceedingly rare according to the Death Penalty Information Center's list of 1490 executions in the modern era (1976 through 2018).[114] Using that database we searched for offenders who were executed for killing one black female. Having identified 65 such offenders, we investigated the facts of each case.[115] In total, since 1976 only two other men, Johnny Ray Johnson (Texas) and Brandon Hendrick (Virginia), have been executed for killing a black female prostitute. Notably, Johnson's execution is similar to that of Hance because although Johnson was executed for the murder of a single prostitute, he also raped and murdered additional women.[116] Brandon Hedrick, then, is the only man in modern history who was executed for the murder of a single black female prostitute without also killing at least one other victim in a separate case. Hendrick brutally raped, robbed, and murdered Lisa Crider, a 23 year-old mother of a 5 year-old boy, on Mother's Day.[117] Obviously, the national pattern we uncovered in this vein does not prove that Hance was executed because he killed multiple victims over time, including one white female. However, the historical statistics tend to confirm that the Hance case is anomalous, and more complicated than the categorical coding decision to treat the case as a black victim killing.

In summary, there were 1,503 possible cases where a death sentence could have been imposed for the killing of a black victim, yet the only two persons who were executed for killing a black victim in Baldus's dataset either (a) also killed a white victim, or (b) killed a black victim with unusually high social status.

b. Additional Reasons to Treat these Unadjusted Findings as Presenting a Conservative Estimate of the Racial Disparities at the Execution Stage

The facts surrounding the crimes of the only two persons from Baldus's dataset who were executed for killing a black victim are striking, but there are at least two additional reasons to regard the results presented above as likely understating the racial disparity.

First, in compiling our study, we found material errors by the Baldus research team that no prior researchers appear to have noticed. Specifically, Baldus erroneously omitted one defendant from his dataset, and it is a case with a white victim that resulted in an execution. James Willie Brown was indicted in October 1975 for the rape and murder of a woman in Atlanta.[118] Baldus's research protocol specified that the authors would include in their dataset all defendants who were "arrested and charged with homicide" between 1973 and 1979 and "who were subsequently convicted of murder or voluntary manslaughter."[119] Brown's case may have evaded the attention of the Baldus team because, although he

[114] https://deathpenaltyinfo.org/views-executions.

[115] Our research on this aspect of the project was limited, as we only used murderpedia (a website that collates information about cases including newspaper articles and appellate opinions). *See* MURDERPEDIA, https://deathpenaltyinfo.org/views-executions (last visited Feb. 12, 2019).

[116] In media reports and appellate opinions, Smith is not described as a prostitute. But she apparently agreed to have sex for drugs, so we included her in our list. Turner, Allan. February 13, 2009. "Houston Man Put to Death for Murder – He Confessed to 1995 Killing and Other Crimes." Houston Chronicle. Page B2.

[117] Frank Green & Jamie Ruff, *Mother's Day Killer Executed; First in Three to Die in Electric Chair*, RICHMOND TIMES-DISPATCH (July 21, 2006).

[118] Brown v. State, 295 S.E.2d 727, 733 (Ga. 1982).

[119] BALDUS ET AL., *supra* note 6 at 45. The research protocol could have been clearer in this regard. In describing the original Procedural Reform Study, Baldus makes clear that they included all persons charged with murder between 1973 and 1978 for whom there was a trial and conviction "during the time specified above." *Id.* at 43–44. But there is less clarity when it comes to the critical Charging and Sentencing Study; here, Baldus specified that he "covered

was indicted in 1975, he was deemed incompetent to stand trial and held in a state hospital until his trial and conviction in 1981.

Second, Baldus erroneously treated the execution of two men, Van Roosevelt Solomon and Brandon Astor Jones, as a single "case." Solomon and Jones were both executed for the killing of the same white victim.

How much do the unadjusted disparities reported in Table 1 change if Hance is coded as killing a white victim, Brown is included, and Solomon-Jones are treated as separate cases? Table 2 demonstrates that accounting for such cases alters our key findings dramatically.[120]

- Among defendants who were sentenced to death for killing a white victim, 24.51% (25/102) were executed.
- Among defendants who were sentenced to death for killing a black victim, 5.26% (1/19) were executed.
- Even among those already sentenced to death, persons who were convicted of killing a white victim were about 4.7 times more likely to be executed (24.51/5.26).
- The overall execution rate is about 39 (2.56/.07) times greater for defendants who killed a white victim.

the period from 1973 through 1979" for all defendants charged with homicide and "subsequently convicted of murder or manslaughter." *Id.* at 45. Baldus does not specify for the latter study that the persons charged prior to 1979 but not convicted until later would not be included in the study. For practical purposes, Brown may be the only such defendant.

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Table 2. The Ceiling: Worst Case Scenario for Unadjusted Disparities[1]						
	Panel A: Death Sentence[2]		***Panel B: Execution Given Death Sentence[3]***		***Panel C: Overall Execution Rate[4]***	
	Number of Actual Death Sentences / *Number of Possible Death Sentences*	*Percent*	*Number of Actual Executions* / *Number of Possible Executions*	*Percent*	*Number of Actual Executions* / *Number of Possible Executions*	*Percent*
White Victim	110 / 983	11.19%	25 / 102	24.51%	25 / 975	2.56%
Black Victim	19 / 1502	1.26%	1 / 19	5.26%	1 / 1502	.07%
Ratio WV / BV					2.56410256 / .0665779 **= <u>38.51</u>**	

Notes:
[1] In this table, Hance is coded as killing a white victim, Brown is included, and Solomon-Jones are treated as separate cases.
[2] $p \leq .001$; chi-square = 76.97 with 1 DF (percentages are based on the weighted data, but chi-square is based on the unweighted data because it assumes independent observations).
[3] We do not present a test of statistical significance because the calculation is based on population data (see text for discussion).
[4] $p \leq .001$; chi-square = 24.05 with 1 DF (percentages are based on the weighted data, but chi-square is based on the unweighted data because it assumes independent observations).

B. *<u>Adjusted Race of Victim Disparities</u>*

The racial disparities described above are unadjusted—that is, the findings we have described up to this point do not consider any possible alternative explanations for the racial disparities. Yet, it is conceivable that non-race factors partially or fully explain the unadjusted disparities. For example, perhaps the heinousness of one's murder provides the actual explanation for who was executed in our dataset. It is possible that defendants who killed a white victim committed more egregious murders than defendants who killed a black victim, and thus the defendants who committed the worst murders were the ones executed. Put differently, if it is true that the heinousness of the crimes is a reliable predictor of who will be executed, and if it is also true that white victims were killed in the most heinous murders, then controlling for the heinousness of the murder in a regression model would cause the unadjusted racial disparities to diminish or even disappear entirely. Only through a multivariate logistic regression can we examine adjusted racial disparities and answer the question of whether killing a white victim increases the odds of being executed after controlling for confounding variables.

In the adjusted models that follow, we provide two sets of results – one treating Hance as a black victim case, and one treating Hance as a white victim case. Because reasonable minds could disagree on the coding of the Hance case, transparency requires both sets of findings. However, we do not include the Brown case or separate the Solomon-Jones cases in the adjusted models, as we do not have the requisite

data for the confounding variables. To complete such an analysis, we constructed a series of logistic regression models that are explained in detail in a Statistical Appendix (Appendix C).[121]

1. *Adjusted Odds Ratio for White Victim in Logistic Regression Models*

Having independently replicated and confirmed Baldus's calculations[122], we next turned to our own data regarding actual executions. Before controlling for any confounding variables, we calculated the odds of execution in white victim cases and black victim cases (the number of times an execution happened divided by the number of times an execution did not happen). For defendants who were sentenced to death for killing a white victim, the odds of execution are .2857 (22 executions/77 non-executions). For defendants who were sentenced to death for killing a black victim, the odds of execution are .1111 (2 executions/18 non-executions). An odds *ratio* compares the odds for the two groups – the odds of execution in white victim cases *relative to* the odds of execution in black victim cases. Thus, the unadjusted odds *ratio* is 2.57 (.2857/.1111). Stated differently, the unadjusted odds of being executed are 2.57 times greater for defendants sentenced to death for killing a white victim, as compared to defendants sentenced to death for killing a black victim.

Next, we calculated the adjusted odds of execution by using a logistic regression model. In a logistic regression model, the "event" is the less common of the two outcomes.[123] Here, the model includes 24 events, as executions (n = 24) are less common than relief (n = 95). Further, the number of events determines the number of variables that can be accommodated in the model. To produce reliable adjusted odds ratios, it is generally understood that 10 events are required for each variable,[124] but more recently some scholars have argued that this rule can be relaxed to 5 events for each variable.[125] Consequently, our execution model can accommodate at least 2 variables (24/10=2.4), and perhaps as many as 5 variables (24/5=4.8).

Given that the governing rules for statistical modelling preclude us from including more than 2 to 5 variables in each regression, we decided to estimate 80 distinct models. Each logistic regression model includes the race of the victim and one of the 40 confounders from Baldus's core model (40 models treat Hance as a black victim case, 40 models treat Hance as a white victim case). As detailed in the Statistical Appendix, our conclusions are confirmed by these models. Regardless of model specification, killing a white victim increases the odds of execution. In fact, 79 of the 80 models suggest that killing a white victim at least *doubles* the odds of execution. So the race of victim disparities did not disappear after controlling for a wide range of confounding variables. Among defendants who were sentenced to death, killing a white

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[121] We recommend the appendix to readers interested in the details of the regression models, and in the body of the Article we will simply describe the key findings from the regression models.

[122] The first thing we did was replicate Baldus's well-known "core" model for death sentences. After controlling for 40 confounding factors, Baldus found that the odds of being sentenced to death were 4.25 times greater for defendants who killed a white victim (statistically significant at $p \leq .01$). We replicated Baldus's models and confirmed his results. Before detailing the results of our own regression analysis, however, it is important to make one clarification to Baldus's original findings. If Baldus had coded Hance as a white-victim case, as we suggest it should be, then the key odds ratio at the heart of *McCleskey v Ke*mp increases. That is, if the Hance case is re-coded as a white victim case, then Baldus's famous 4.25 figure actually increases; the odds of being sentenced to death were 4.95 times greater for persons who killed a white victim (statistically significant at $p \leq .001$).

[123] Peter Peduzzi et al., *A Simulation Study of the Number of Events Per Variable in Logistic Regression Analysis*, 49 J. CLINICAL EPIDEMIOL 1373, 1373 (1996).

[124] Peduzzi et al., *supra* note 121, 1373.

[125] Eric Vittinghoff & Charles E. McCulloch, *Relaxing the Rule of Ten Events Per Variable Logistics and Cox Regression*, 165 AM. J. EPIDEMIOLOGY 710, 710 (2006).

victim increases the odds of execution – a relationship that is substantial and stable. The racial disparities that Baldus discovered went from bad to worse.

Moving beyond Baldus's core model, we also developed a new variable measuring the heinousness of each crime. To do so, we deferred to the Georgia legislature. After the death penalty was ruled unconstitutional in *Furman*, the Georgia legislature used aggravating factors to narrow the pool of death-eligible defendants to the "worst of the worst" (Georgia's statutory aggravators from the time period in question are included as Appendix B). Since a defendant becomes death eligible if the murder includes one aggravator, then a murder with two aggravators is presumably worse than a murder with one aggravator, a murder with three aggravators is presumably worse than a murder with two aggravators, and so forth. Thus, we measure the heinousness of the crime – arguably the key confounder in a death penalty case – as the number of statutory aggravators in the case.[126]

Strikingly, even after controlling for the heinousness of the crime based on the number of aggravating factors present in each case, race matters. The heinousness of the crime is a partial explanation for who gets executed and who does not, but it is not a complete explanation. If Hance is coded as a black victim case, then the unadjusted odds ratio of 2.57 only attenuates to an adjusted odds ratio of 2.19. If Hance is coded as a white victim case, then the unadjusted odds ratio of 5.38 only attenuates to an adjusted odds ratio of 4.93. The bottom line is clear: Among defendants who were sentenced to death, the odds of execution are substantially greater for those who killed a white victim than those who killed a black victim even after controlling for the heinousness of the crime.

The fact that the difference between the unadjusted odds ratio and the adjusted odds ratio is relatively trivial indicates that the heinousness of the crimes cannot "explain away" the impact of race. If defendants who killed a white victim had committed much more aggravated offenses, and if those who committed much more egregious offenses were far more likely to be executed, then the racial disparities in the unadjusted model would have disappeared in the adjusted model. In reality, however, our research shows that the gravity of the crimes was similar. Defendants sentenced to death for killing white victims committed murders with an average of 3.4 statutory aggravators, whereas defendants sentenced to death for killing black victims committed murders with an average of 3.1 statutory aggravators. In short, the seriousness of the crime, as designated by the aggravating factors in the Georgia statute, does not explain racial disparities in execution.

We treat the "sum of aggravators" or "heinousness" model as our principal model. Doing so has compelling benefits. From a legal perspective, the citizens of Georgia, through their elected representatives, have designated certain crimes as beyond the pale; we accede to the citizens' judgment. From a statistical perspective, the index captures the egregiousness of the crime in a single variable (an important consideration given the events per variable limitation). Perhaps most importantly, our principal model provides a conservative estimate of the race of victim disparities (the adjusted odds ratios are among the lowest of the models we estimated). Below, we use the odds ratios from our principal model to calculate probability pairs.

Before closing our discussion of adjusted disparities, we assessed the robustness of our key finding using a forward selection procedure. The procedure asks: Of all the variables in Baldus's core model, is killing a white victim among the strongest predictors of execution? Forward selection begins with an empty

[126] The Baldus dataset includes a separate variable for each aggravator – LDFB1 trough LDFB 10 coded 0/1. See Appendix B for the list of aggravators. Baldus did not have a variable for the number of aggravators in the case. So we added the number of aggravators (broken out as 10 separate variables) to create a new variable – the number of aggravators.

logistic regression model (no variables), adds the variable from Baldus's core model that most improves model fit, adds the next variable from Baldus's core model that most improves model fit, and continues until no further addition improves model fit.[127] Of the 41 candidates in the core model, forward selection indicated that five variables improved model fit: killing to collect insurance money (INSMOT), killing to avoid arrest (LDFB10), having a prior murder conviction (MURPRIOR), killing a bedridden or handicapped victim (VBED), and killing a white victim (WHVICRC) (the same variables were selected regardless of whether Hance was coded as killing a black victim or a white victim). Critically, the forward selection algorithm is completely neutral – the algorithm selected a subset of pivotal variables from Baldus's core model according to a predetermined formula. Drawing on a neutral formula, the robustness test supports our central conclusion by showing that among defendants who were sentenced to death, killing a white victim is a key predictor of being executed.[128]

2. *The Heinousness of the Crime*

We also examined the adjusted odds ratio for the heinousness of the crime. The adjusted odds ratio represents the effect of a 1-unit change in the independent variable (number of aggravating factors) on the dependent variable (execution). This is an independently notable feature of our research insofar as it presents the first effort we are aware of to measure the impact on execution of increasing the number of aggravating factors. For each additional statutory aggravator present, the odds of execution are 1.73 times greater. This is an important finding because it validates to some extent the conventional account by prosecutors that the seriousness of the crime matters. Our research confirms that aggravating factors are a statistically valid predictor of whether a defendant will ultimately be executed. More importantly, however, the same regression model demonstrates that killing a white victim has a greater impact on the chance of being executed than committing a murder with one additional statutory aggravator.

3. *Probability Pairs*

Because many readers will regard odds ratios as difficult to interpret and somewhat abstract, we also converted the odds ratios for the white victim variable to probability pairs.[129] As explained and illustrated in the Statistical Appendix, probability pairs assign a hypothetical probability of execution in a black victim case. The adjusted odds ratios for the white victim variable from Baldus's sentencing model and our execution model can then be used to determine the corresponding probability of an execution if the victim had been white. Put simply, the probability pairs allow one to see concretely how the chance of an execution would change if a black victim had instead been white, but the rest of the facts remained the same.

In Figure 1, we treat Hance as a white victim case to examine the "worst case scenario." Recall that if we code Hance as a white victim case, then the adjusted odds of a death sentence are 4.95 times

[127] Specifically, we estimated a forward selection model for Firth logistic regression based on the penalized likelihood ratio test (Firth logistic regression is required to address quasi-complete separation; see Statistical Appendix, footnote 6). Hastie, Trevor, Robert Tibshirani, and Jerome Friedman. 2009. The Elements of Statistical Learning: Data Mining, Inference, and Prediction (Second Edition), pages 58-59.

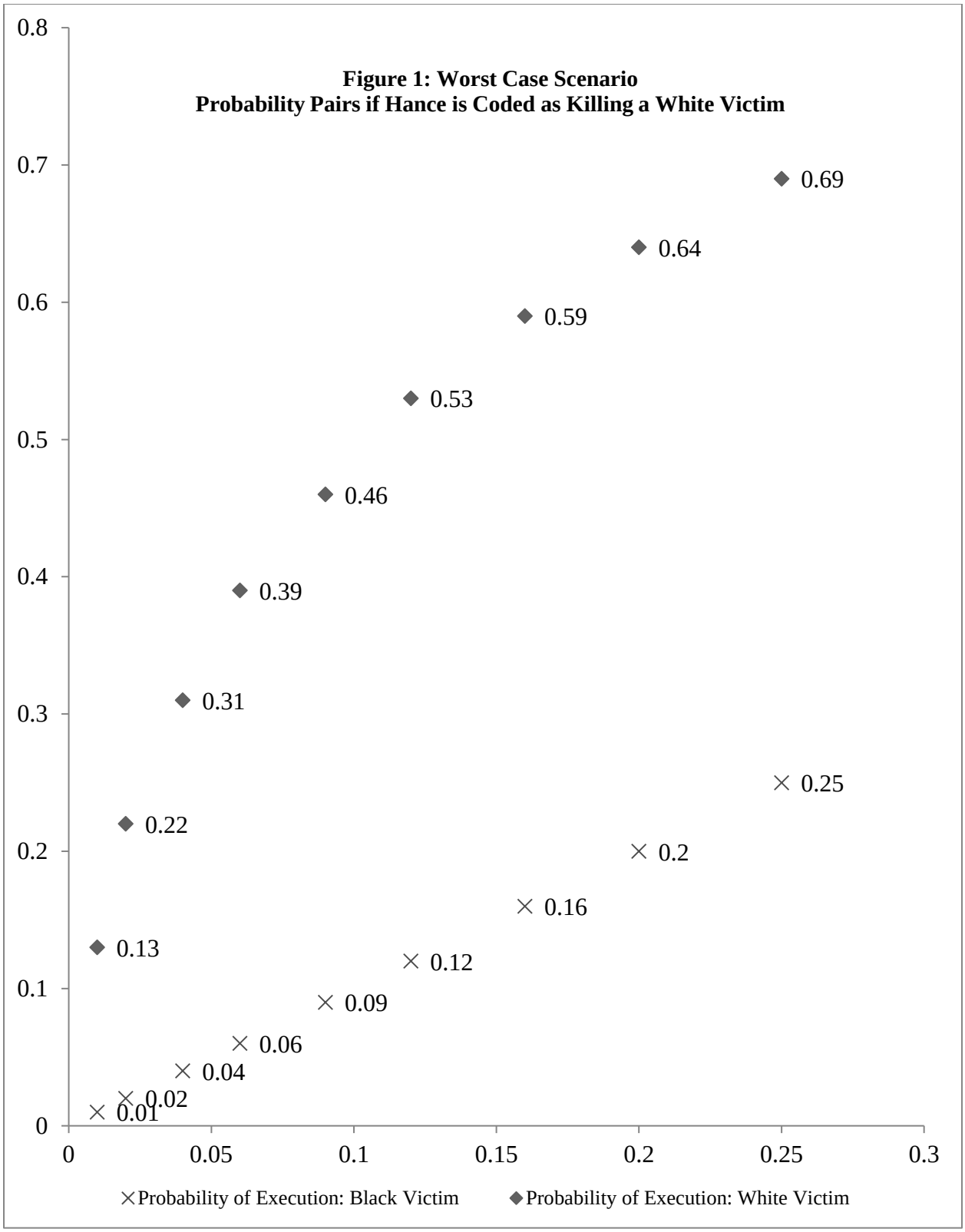
[128] Although supportive of our central conclusion, we did not treat the forward selection model as our principal model. In the forward selection model, the odds ratio for white victim increased substantially (as compared to our principal model based on the sum of aggravators). The change occurred because defendants who killed a white victim were more likely to be executed despite being less likely to kill for insurance money, kill a bedridden or handicapped victim, or have a prior murder conviction. Thus, we treat the more conservative sum of aggravators model as our principal model. The forward selection model is available upon request.

[129] For a detailed explanation and example of the calculation of probability pairs. *See* Akiya M. Liberman, *How Much More Likely: The Implications of Odds Ratios for Probabilities*, 26 AMERICAN JOURNAL OF EVALUATION 253 (2005).

greater for defendants who killed a white victim, and the adjusted odds of an execution are 4.93 times greater for defendants who killed a white victim (as detailed above). The probability pairs provide a readily interpretable metric for describing aggregate racial disparities – the cumulative impact of victim race after combining sentencing disparities and execution disparities. For example, if a defendant who killed a black victim has a 1% chance of being executed, then a similarly situated defendant who killed a white victim has a 13% chance of being executed. Likewise, if a defendant who killed a black victim has a 9% chance of being executed, then a similarly situated defendant who killed a white victim has a 46% chance of being executed.[130] As Figure 1 reveals, the combined racial disparities from sentencing and execution, which have never been documented in death penalty research before, are dramatic.[131]

[130] The probability of execution in a white victim case is plotted against the probability of execution in a black victim case (the probability in a black victim case is plotted against itself as a reference).

[131] In the Statistical Appendix, we detail the formula used to convert odds ratios to probability pairs and we consider a broader range of hypothetical comparisons.



V. The Eighth Amendment and Execution-Stage Arbitrariness

The original research discussed in the preceding sections adds a new dimension to the vast literature documenting arbitrariness in the administration of the death penalty. As noted earlier, arbitrariness in this legalistic sense does not mean random as in ordinary English, but rather connotes a decision based on something irrelevant or improper to the decision being made. In this way a death sentence could be described as being based on arbitrary factors, even if there are perfectly clear reasons for the decision, including racism or partisan politics.[132]

Prior research has focused primarily on assessing the degree of arbitrariness that permeates the sentencing proceedings.[133] This research is directly relevant to the question of whether aggravating factors and existing state procedures comport with the requirement of *Furman* to eliminate arbitrariness by qualitatively and quantitatively narrowing the class of offenders who could be sentenced to death. The existing research shows that more than forty years after *Gregg*, sentencing-stage arbitrariness persists, and may in some states even be worse than during the pre-*Furman* era.[134]

The research presented in this Article takes the next step and confirms that, among the relatively small class of persons sentenced to death, the post-sentencing stages of a case inject an additional layer of arbitrariness into the process of determining who is actually executed. The question taken up in this section is whether this new empirical evidence showing that it is more likely that a defendant condemned to death for killing a white victim will be executed is directly relevant to the constitutionality of the death penalty. In this vein, there are at least two related considerations: (1) the relevance and use of social science by the Court in death penalty cases, and more specifically (2) the relevance of data showing systemic, post-sentencing arbitrariness in stating an Eighth Amendment claim.

A. The History and Future of Empirical Evidence & the Death Penalty

Scholars have long observed that the Supreme Court's death penalty jurisprudence is often an exercise in recreating public opinion; a central consideration in upholding the death penalty as constitutional is "public acceptability."[135] When the Supreme Court invalidated the death penalty in 1972, public support for capital punishment was at a historic low point, around 50%.[136] By the time the Court decided *Gregg* in 1976 and reinstated the death penalty, public support had surged to about 66%.[137] Notably, the *Gregg* decision's reinstatement of the death penalty was premised on a prediction that the revised death penalty systems would create a more narrowed, structured, and fair death penalty. The modern era of the death penalty has been comprised of procedural tinkering aimed at ensuring fairness and increasing confidence

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[132] *Supra* Note 9.

[133] *See, e.g.*, *Death Eligibility in Colorado*, *supra* note 10, at 1109; Carol S. Steiker & Jordan M. Steiker, *Sober Second Thoughts: Reflections on Two Decades of Constitutional Regulation of Capital Punishment*, 109 HARV. L. REV. 355, 415 (1995); Steven F. Shatz & Nina Rivkind, *The California Death Penalty Scheme: Requiem for Furman*, 72 N.Y.U. L. Rev. 1283, 1333 (1997) [hereinafter *The California Death Penalty Scheme*].

[134] *See, e.g.*, Jeffrey Kirchmeier, *Casting a Wider Net: Another Decade of Legislative Expansion of the Death Penalty in the United States*, 34 PEPP. L. REV. 1, 5-6 (2006); Chelsea Creo Sharon, *The "Most Deserving" of Death: The Narrowing Requirement and the Proliferation of Aggravating Factors in Capital Sentencing Statutes*, 46 HARV. C.R.-C.L. L. REV. 223, 247 (2011); David C. Baldus et al., *Arbitrariness and Discrimination in the Administration of the Death Penalty: A Legal and Empirical Analysis of the Nebraska Experience (1973-1999)*, 81 NEB. L. REV. 486, (2002); *The California Death Penalty Scheme*, *supra* note 129, at 1333; *Death Eligibility in Colorado*, *supra* note 10, at 1115.

[135] Gross, *supra* note 5, at 767.

[136] *In Depth: Topics A to Z: Death Penalty*, GALLUP, https://news.gallup.com/poll/1606/death-penalty.aspx (last visited Feb. 12, 2019).

[137] *Id.*

in the use of the ultimate penalty.[138] Yet four decades later, in 2018, only 49% of respondents in a Gallup poll indicated confidence that the death penalty was "applied fairly."[139]

More generally, at one level the decisions in *Furman* and *Gregg* were fundamentally rooted in empirical data or hypotheses about data. Justice Stewart's famous proclamation that death sentencing was no more predictable or fair than lightning strikes was borne out of his realization that "less than 20% of those convicted of murder were sentenced to death."[140] Justice White was similarly concerned with the quantitative context for the modern death penalty, explaining that the death penalty was "*so infrequently imposed* that the threat of execution is too attenuated" to be constitutional.[141] By the same token, when the Justices reinstated the death penalty in *Gregg*, there was an explicit assumption that the revised capital sentencing system would escape the empirical "infirmities which invalidated [the] previous system under *Furman*."[142] Summarizing the quantitative assumptions underlying the approval of Georgia's revised death penalty system, Justice White rejected the assertion that the new system was "bound to fail" because death sentences would remain infrequent and arbitrary. Justice White reasoned that death sentences would not remain infrequent and arbitrary because the use of aggravating factors allowed the state to "more narrowly define [the class of death eligible persons]," making it "reasonable to expect that juries even given discretion not to impose the death penalty will impose the death penalty in a substantial portion of the cases so defined."[143]

Despite the fact that the modern death penalty's intricate rules and procedures seem to be the product of empirical evidence about the death penalty *pre-Furman* and empirical assumptions about how the revised systems would operate *post-Gregg*, courts have more recently received empirical data with great skepticism.[144] In *Lockhart v. McCree*, for example, the Court was confronted with research suggesting that removing jurors who opposed the death penalty ("death qualifying a jury") had the effect of biasing jurors in favor of the prosecution[145], but Justice Burger retorted that he was "not going to be 'bossed around' by social scientists."[146] There was a sense that even if empirical data showed bias or structural defects, the data should not control the constitutional adjudication. As John Bolger put it, the Court arrived at the conclusion that "even if (or more precisely, even though) the empirical evidence showed" structural unfairness, empirical evidence would not justify judicial interventions.[147] In *Glossip v. Gross*, Justice Scalia

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[138] COURTING DEATH, *supra* note 4, at 155.

[139] For scholars like Susan Bandes, the Court's procedural approach was the "worst of both worlds: the appearance of careful or even overzealous scrutiny, but little actual constitutional protection for the rights of defendants." Bandes, *supra* note 15, at 906.

[140] Furman v. Georgia, 408 U.S. 238, 309 (1972) ("[D]eath sentences are cruel and unusual in the same way that being struck by lightning is cruel and unusual."). *The California Death Penalty Scheme*, *supra* note 129, at 1285, 1288 ("[A]ll five Justices focused on the infrequency with which the death penalty was imposed . . . .").

[141] Furman v. Georgia, 408 U.S. at 313 (1972) (Stewart, J., concurring) (emphasis added).

[142] *Id.*

[143] Gregg v. Georgia, 428 U.S. 153, 222 (1976) (White, J., concurring).

[144] *See, e.g.*, *Eyes Wide Open*, *supra* note 13, at 249; Mario L. Barnes, Erwin Chemerinsky, What Can Brown Do for You?: Addressing Mccleskey v. Kemp As A Flawed Standard for Measuring the Constitutionally Significant Risk of Race Bias, 112 Nw. U. L. Rev. 1293 (2018). As John Donohue has illustrated based on Justice Scalia's use of discredited deterrence studies (even studies disavowed by their authors), some judges approach to social science data consist of "credulously accepting the evidence that supports a preconceptions and of peremptorily rejecting the evidence that contradicts it." Donohue, *supra* note 37, at 63.

[145] 476 U.S. 162 (1986).

[146] Boger, *supra* note 22, at 1672 (2018). The point, however, is not that social science should also dictate legal results. There are famous cases in which the Court was acting quite rationally to reject or ignore social science data. Palmore v. Sidoti, 466 U.S. 429 (1984).

[147] *Id.* This is consistent with some notable recent decisions outside of the death penalty context. For example, Chief Justice Roberts explained that challenges to political gerrymandering were suspiciously based on what he referred to

was similarly hostile to the suggestion by his fellow Justices that sociology research was documenting arbitrariness in the imposition of death sentences: "If only Aristotle, Aquinas, and Hume knew that moral philosophy could be so neatly distilled into a pocket-sized, vade mecum 'system of metrics.'"[148] Justice Thomas was no less strident, and quipped that courts "owe victims more than this sort of pseudoscientific assessment" that is based on "cold mathematical calculations."[149] Some of the Justices have been accused of going so far as to gauge the quality of a study "not by the dictates of scientific methodology but rather by how closely their findings conform to one's previously held beliefs."[150]

In the face of such comments, it is not difficult to understand why some commentators have concluded that the "Supreme Court is allergic to math."[151] Reva Siegal provided one of the most thoughtful extended reflections on the Court's use of social-science data, and posited that the Court's hostility to statistical evidence is, in part, rationalized by treating data-based decision-making as indelibly political in nature – warranting legislative rather than judicial involvement.[152] There is a deep skepticism of social science as politically biased discourse cloaked in numbers and equations; there is a view that data has been weaponized in support of left-leaning policy preferences. In Siegal's view, the disparagement of the field and the refusal of judges to implement the insights of social science "may counsel putting [empirical data] into practice outside courtroom settings."[153] Or as John Bolger argues, the Court's cases dealing with social science are an instruction to lawyers to "[p]ut down your data sets."[154]

But the reality is more complicated, and John Donohue has posited that "empirical evaluation will be at the heart of the case" against the death penalty, and Carol and Jordan Steiker have similarly concluded that the ultimate demise of the death penalty will come at the hands of data.[155] Take, for example, Justice Breyer's dissent in *Glossip v. Gross*: at least by the standards of judicial opinions, it is a tour de force of

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as "sociological gobbledygook," and Justice Breyer seemed sympathetic to the Chief Justice's concern. The Chief Justice's comments during oral argument prompted a response from the President of the American Sociological Association. *See* Colleen Flaherty, *Sociology's 'Mic Drop' Moment*, INSIDE HIGHER ED (Oct. 12, 2017), https://www.insidehighered.com/news/2017/10/12/chief-justice-john-roberts-calls-data-gerrymandering-sociological-gobbledygook ("What you call 'gobbledygook' is rigorous and empirical.").

[148] Glossip v. Gross, 135 S. Ct. 2726, 2748 (2015) (Scalia, J., concurring).

[149] *Glossip*, 135 S. Ct. at 2752 (Thomas, J., concurring).

[150] This sentiment is directly attributed to Justice Scalia by his former law clerk, Bruce Hay. Donohue, *supra* note 37, at 62. Barnes & Chemerinsky, *supra* note 137; *see also Glossip*, 135 S. Ct. at 2747 (Scalia, J., concurring) (describing Justice Breyer's use of empirical evidence as "gobbledygook" and chiding his dissenting colleagues for "waving over their heads a ream of the most recent abolitionist studies (a superabundant genre) as though they have discovered the lost folios of Shakespeare, insist that now, at long last, the death penalty must be abolished for good."). Notably, even Justice Scalia engages with the social science that he thinks supports his position on the death penalty. *Id.* at 2749 (citing to studies suggesting that the death penalty could serve as a deterrent).

[151]Oliver Roeder, *The Supreme Court Is Allergic to Math*, FIVETHIRTYEIGHT (Oct. 10, 2017, https://fivethirtyeight.com/features/the-supreme-court-is-allergic-to-math/).

[152] Reva B. Siegel, *Blind Justice: Why the Court Refused to Accept Statistical Evidence of Discriminatory Purpose in* McCleskey v. Kemp*—and Some Pathways for Change*, 112 NW. U. L. REV. 1269, 1285–86 (2018) ("At a time when the political branches were engaged in a 'War on Crime,' incarceration rates were skyrocketing, and racial discrepancies in incarceration rates were in the headlines, the Court rejected McCleskey's claim on the grounds that it was better suited for political than legal resolution.").

[153] Siegel, *supra* note 32, at 1289–90.

[154] Boger, *supra* note 22, at 1678.

[155] STEIKER & STEIKER, *supra* note 4 at 250 (analogizing to the gay marriage debate and noting that progress was achieved when courts insisted on data in support of gay marriage bans as opposed to moral intuition and an amorphous sense of justice).

the empirical case against the modern death penalty.[156] Justice Breyer documented the many "[t]horough studies of death penalty sentences" that support the conclusion that the death penalty operates in a manner that fails to cure the problems of arbitrariness and unfairness as identified in *Furman*.[157] Drawing on a wealth of social science data, Justice Breyer observed:

> "Studies indicate that the factors that most clearly ought to affect application of the death penalty—namely, comparative egregiousness of the crime—often do not. Other studies show that circumstances that ought not to affect application of the death penalty, such as race, gender, or geography, often do."[158]

Similarly, in a 2018 certiorari petition, *Hidalgo v. Arizona*, Neal Katyal championed the case of a man convicted of multiple murders in Arizona who was arguing for constitutional relief from his death sentence based on an unabashedly quantitative claim: the fact that "virtually every defendant convicted of first-degree murder is eligible for death [in Arizona]."[159] Although the Court ultimately denied certiorari in the case, it did so in a most peculiar manner. Four Justices concurred in the denial of certiorari[160] and explained in their opinion that a data-based claim of this sort could eventually suffice to overturn the death penalty. The four Justices writing in *Hidalgo* essentially concluded that the empirical data provided by Hidalgo did not itself provide an adequate data-based vehicle for striking down the nation's death penalty, but they invited a more careful and robust study. As Justice Breyer wrote for the four members of the Court, "I agree with the Court's decision today to deny certiorari," because the empirical evidence did not receive the sort of "careful attention and evaluation" that warrants a constitutional decision.[161] Instead, the Justices reasoned that the data was "limited and largely unexamined," and urged other capital defendants to take the "opportunity to fully develop a record with the kind of empirical evidence that the petitioner points to here." The four Justice opinion in *Hidalgo*, then, reads like a plea for a more thorough, deliberate and well-documented study of arbitrariness in the death penalty.[162]

More important than these recent opinions in *Glossip* and *Hidalgo* is the willingness of state courts in recent years to take into account empirical evidence about the operation of the death penalty. For example, the Connecticut Supreme Court refused to permit executions to be carried out based in significant part on the data of one leading social scientist, John Donohue.[163] Donohue studied every homicide in

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[156] Glossip v. Gross, 135 S. Ct. 2726, 2755 (2015) (Thomas, J., concurring) (citing "the evidence of the death penalty's application" as a basis for holding the death penalty unconstitutional).

[157] *Id.* at 2760–2762 (Breyer, J., dissenting) ("The research strongly suggests that the death penalty is imposed arbitrarily.").

[158] *Id.* at 2760 (Breyer, J., dissenting).

[159] Hidalgo v. Arizona, 138 S. Ct. 1054, 1054 (2018).

[160] Under time honored "rule of four," only four Justices are required to support hearing a case in order for certiorari to be granted. *See* Ferguson v. Moore-McCormack Lines, Inc., 352 U.S. 521 (1957) ("rule of four"—namely that certiorari should be granted upon a vote of four of the nine justices"); *see also* Joan Maisel Leiman, *The Rule of Four*, 57 COLUM. L. REV. 975 (1957). For a detailed exposition of the history and application of the rule in capital cases, *see Eric M. Freedman, No Execution If Four Justices Object, 43 Hofstra L. Rev. 639, 650 (2015)*.

[161] *Hidalgo*, 138 S. Ct. at 1057.

[162] There is a single line in the concurrence that raises the question of whether empirical evidence will suffice, but the bulk of the analysis is pointed towards urging the creation of a more complete record. *Id.* ("Nor has it been fully explained whether and to what extent an empirical study would be relevant to resolving the constitutional question presented.").

[163] State v. Santiago, 122 A.3d 1, 49, 94 (Conn. 2015) (relying on Donohue's research to substantiate key claims regarding defects in the operation of the state's death penalty). The State's high court defended its use of sociological studies against the allegations that such research was improper, extra-record evidence. *Id.* at 79 ("Ultimately, and most importantly, Chief Justice Rogers, having criticized our consideration of extra-record materials, fails to identify so much as a single statistic or historical fact cited in this opinion that she believes is subject to reasonable dispute.").

Connecticut from 1973–2007 and published a comprehensive study in 2011.[164] Summarizing portions of his research, two concurring justices observed, that "[p]erhaps the most striking finding was that minority defendants who committed capital eligible felonies against white victims in Connecticut were charged with capital crimes in 85 percent of cases, whereas prosecutors only sought a capital conviction approximately 60 percent of the time for crimes with minority victims."[165] Based in large measure on these findings, the Connecticut legislature abolished the death penalty in the state; however, the question remained whether the persons sentenced to death prior to the legislative abolition could still be constitutionally executed. The Connecticut Supreme Court resolved the debate in favor of ending the death penalty retroactively for all persons in the state, and Donohue's compelling research undergirds much of the court's reasoning.[166] Donohue's empirical research led to the abolishment of the Connecticut death penalty and the state Supreme Court's decision applying the abolition retroactively.[167]

The most striking example of the impacts of empirical research in death penalty litigation is the Washington Supreme Court's decision in October of 2018 striking down that state's death penalty. As a headline in the *Atlantic* aptly summarized the litigation, "Statistics doomed Washington State's Death Penalty."[168] The decision, *State v. Gregory*, is an homage to social science generally and the specific research of Katherine Beckett and Heather Evans[169] in particular, which the court credited with proving that the state's death penalty was "imposed in an arbitrary and racially biased manner."[170]

Previously, in 2012, the Washington Supreme Court had considered the effectiveness of its statutorily mandated proportionality review and in so doing explicitly noted that there is "no evidence that racial discrimination pervades the imposition of capital punishment in the state."[171] One justice wrote a separate opinion specifically calling for an end to this research void, asking "competent experts to present evidence on the "the racial patterns that emerge from the aggravated-murder trial reports."[172] Answering this request, a study was commissioned to examine the effect of race on the imposition of the death penalty in the state, and Beckett and Evans produced a study in 2014 and subsequently published their updated findings in 2016.[173]

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[164] John J. Donohue III et al., *Capital Punishment in Connecticut, 1973–2000: A Comprehensive Evaluation from 4686 Murders to One Execution*, Stan. L. Sch., NAT'L BUREAU OF ECON. RES. (Oct. 15, 2011) [hereinafter *Capital Punishment in Connecticut*], https://deathpenaltyinfo.org/documents/DonohueCTStudy.pdf; John J. Donohue, *An Empirical Evaluation of the Connecticut Death Penalty System Since 1973: Are There Unlawful Racial, Gender, and Geographic Disparities?*, 11 J. EMPIRICAL LEGAL STUD. 637 (2014).

[165] *Santiago*, 122 A.3d at 95 (Norcott, J., concurring) ("Donohue also concluded that there is compelling, statistically significant evidence that minority defendants who kill whites are substantially more likely to receive a sentence of death than white defendants who commit equally egregious crimes.").

[166] There are actually two Connecticut Supreme Court decisions addressing this issue. The first case concluding that the legislative ban on the death penalty had to apply retroactively was *State v. Santiago*, 122 A.3d 1 (Conn. 2015). Somewhat shockingly, after the retirement from the court of one of the justices in the majority, prosecutors in the state refused to accept the decision as valid and forced a second opinion. State v. Peeler, 140 A.3d 811, 822 (Conn. 2016); *Capital Punishment in Connecticut*, *supra* note 160.

[167] The recent decision of the Delaware Supreme Court invalidating that state's death penalty scheme is more traditionally doctrinal in its approach, but there are still aspects of the decision that appear to rest on sociological data. Rauf v. State, 145 A.3d 430, 480 (Del. 2016) (Strine, C.J., concurring) (invoking empirical jury studies).

[168] Garrett Epps, *How Statistics Doomed Washington State's Penalty*, ATLANTIC (Oct. 14, 2018), https://www.theatlantic.com/ideas/archive/2018/10/how-statistics-doomed-washington-states-death-penalty/572968/.

[169] Katherine Beckett & Heather Evans, *Race, Death, and Justice: Capital Sentencing in Washington State, 1981-2014*, 6 COLUM. J. RACE & L. 77, 97 (2016)

[170] State v. Gregory, 427 P.3d 621, 627 (Wash. 2018).

[171] State v. Davis, 290 P.3d 43, 83 (Wash 2012).

[172] *Gregory*, 427 P.3d at 630 (quoting Davis, 290 P.3d at 401 (Wiggins, J., dissenting).

[173] Beckett & Evans, *supra* note 165, at 97.

Whereas social science had previously played a key role behind the scenes[174] and in concurring and dissenting opinions, the central holding of the Washington Supreme Court is that in the face of clear data showing that the death penalty operates in an arbitrary or racially biased manner, the penalty is unconstitutional.[175] The court explained that when "new, objective information is presented for our consideration," the relevant "constitutional claim must be examined" in light of such sociological data.[176] Relying almost exclusively on the study to substantiate its reasoning, the high court ruled that "[i]t is now apparent that Washington's death penalty is administered in an arbitrary and racially biased manner," and in light of the research "before us, we strike down Washington's death penalty as unconstitutional.[177]

Empirical data has always been relevant to the constitutionality of the death penalty. There are judges who have reacted with hostility to data that is unfavorable to the death penalty, but there is no question that the arc of the death penalty's future will turn on the quality and availability of the empirical data.[178] Nowhere is this truer than on questions of race. With Washington's recent invalidation of the death penalty based on a study, it is not a stretch to imagine that other states will also revisit the constitutionality of their capital sentencing schemes based on emerging empirical data.[179] Eventually, Jack Greenberg

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[174] One can reasonably speculate about whether both Coker v. Georgia and Kennedy v. Louisiana were influenced by the Court's awareness of empirical data, not found in the opinions, that the death penalty's application in the rape context operated with extreme racial disparities. Jack Greenberg, *Capital Punishment as a System*, 91 YALE L.J. 908, 912 (1982) ("Almost 90% of those executed were black men convicted for the rape of white women."). A more concrete example of the influence of empirical evidence even when the research is not directly cited is *Gregg v. Georgia*, where "the Court, while claiming not to have relied on the empirical evidence," is suspected to have done so by leading scholars. Donohue, *supra* note 37, at 57 (noting that "Isaac Ehrlich's econometric analysis of national time-series data was used to claim that each execution saved eight lives" by Solicitor General Robert Bork). Ehrlich's work was later deemed unpersuasive by the National Academy of Sciences. *Id.* Donohue has posited that it is "unrealistic" to expect judges to have "enough quantitative heft to be able to evaluate the quality of statistical studies." *Id.* at 104.

[175] The Washington Supreme Court's decision reads like an academic discourse on sociology data. One cannot read the decision and conclude that without the underlying research, the court would have reached the same conclusion. Indeed, the court goes out of its way to minimize the "methodological issues raised by the State," with reassuring statements about technical matters almost certainly beyond their competence, including the p-value and the size of the dataset. *Gregory*, 427 P.3d at 634. In one of the most striking lines in the decision, the court declined to require that the research be perfect because the question was a legal one rather than a scientific one, and hedged that "we decline to require indisputably true social science to prove that our death penalty is impermissibly imposed based on race." *Id.* (rationalizing that Justice Stewart in *Furman* did not actually compare the probability of being struck by lightning to the risk of being sentenced to death).

[176] *Gregory*, 427 P.3d at 633 (2018) (affording "great weight" to the study).

[177] *Id.* at 636 (quoting Furman v. Georgia, 408 U.S. 238, 313 (1972) (White, J., concurring). For a detailed discussion of how a legislature's failure to draft a statute that meaningfully narrows the class of defendants eligible for the death penalty. *See* Justin Marceau & Sam Kamin, *Waking the Furman Giant*, 48 U. Cal. Davis L. Rev. 981 (2015); *The California Death Penalty Scheme*, *supra* note 129. Even bracketing concerns with race, one could read the court's decision as treating the empirical evidence regarding the arbitrary administration of the penalty as mandating a holding that the death penalty is unconstitutional: "Beckett's analysis and conclusions demonstrate that there is no meaningful basis for distinguishing the few cases in which the death penalty is imposed from the many cases in which it is not."

[178] *Cf.* Kovarsky, *supra* note 9 (dwindling number of counties using the death penalty).

[179] Within weeks of the Washington Supreme Court's decision in *State v. Gregory*, the U.S. Supreme Court conferenced a certiorari petition asking whether, if racial bias in the operation of the Oklahoma death penalty can be proved through a "complex statistical study," then is the state's death penalty unconstitutional. *Jones v. Oklahoma*, SCOTUSBLOG, https://www.scotusblog.com/case-files/cases/jones-v-oklahoma/. *See* Glenn Pierce, Michael Radelet & Susan Sharp, *Race and Death Sentencing for Oklahoma Homicides 1990-2012*, 107 J. CRIM. L & CRIMINOLOGY 733, 746 (2017) (finding that after controlling for other factors, a black male convicted of killing a white male is roughly three times more likely to be sentenced to death than a black male defendant convicted of killing a black defendant).

posited almost forty years ago, the Court will be faced with enough data about the repeatedly revised capital systems that it "will have to come to the conclusion that there is no way to make a capital punishment system work."[180] The empirical evidence presented in this article is robust and reveals yet another form of arbitrariness in the administration of the death penalty, and in the process validates Justice Blackmun's lament that the fatal tinkering must cease and we should no longer "continue to coddle the Court's delusion that the desired level of fairness has been achieved," and instead the steady stream of data confirms that "the death penalty experiment has failed."[181]

B. The Role of the Constitution in Regulating Execution Arbitrariness

The research presented in this Article is the first of its kind; it is a regression analysis demonstrating that the race of the victim is a powerful predictor of who is actually executed. Such findings might be expected to cause fair-minded policy makers to question their commitments to the death penalty. But does the data also suggest constitutional infirmity under the Eighth Amendment? Does the Eighth Amendment govern post-sentencing execution decisions? This question is a bit more complicated that it seems at first blush.

1. General Considerations about the Role of the Constitution in Regulating Post-sentencing Arbitrariness.

If it was the case that a state had hundreds of people on death row but only ever executed non-white defendants, we suspect that most persons would reflexively assume that the death penalty in that state was operating in an unconstitutional manner. But setting aside the possibility of overt discrimination in the selection of persons for execution, which would violate equal protection, more scholarly thought should be devoted to the contours of an Eighth Amendment challenge to post-sentencing outcomes in capital cases. Unlike stating a claim under equal protection, a claim of Eighth Amendment "arbitrariness, of course, need not be intentional or purposeful."[182] But does an arbitrary death selection process offend the constitution? Would it be unconstitutional for the state of California, which has more than 700 persons on death row, to conduct an annual lottery type execution-selection whereby the head of the Department of Corrections randomly draws five ping-pong balls per year from a hopper filled with balls printed with the names of all prisoners for whom appeals have been exhausted and completed? All of these men have been sentenced to death, and an execution warrant lawfully could be issued at any time, so is it abhorrent to the constitution to have the process of selecting who will be executed and in what order determined by a lottery?

Courts would likely conclude that a state lottery to determine who would be executed is so unseemly as to violate the constitution, and this would be doubly true if it was a rigged lottery that somehow disadvantaged certain defendants. But under existing law, it is far less clear that a court would find a constitutional violation where the ultimate result was just as arbitrary as a rigged lottery, when that result was a product of arbitrariness inherent to the clemency or appellate process. There are states with hundreds of persons on death row, and although the governor may not hold an actual lottery, the decision of who to execute may depend on variables such as electoral politics, and the victim's status or the level of victim vocalization and media contacts. In practical effect, then, the decision of who to execute could be just as unmoored from the heinousness of the crime as a lottery.

As with the rigged lottery for executions, we anticipate that the instinctive reaction of many would be that if a system is imposing the ultimate penalty in a manner that is demonstrated to be arbitrary, then

[180] Greenberg, *supra* note 170, at 928.
[181] Callins v. Collins, 510 U.S. 1141, 1145 (1994) (Blackmun, J., dissenting).
[182] Samuel R. Gross, *Patterns of Death: An Analysis of Racial Disparities in Capital Sentencing and Homicide Victimization*, 37 STAN. L. REV. 27, 120 (1984).

the punishment is necessarily cruel and unusual – that is, an arbitrarily imposed penalty always violates the Eighth Amendment. Under this logic, our research reveals a defect of constitutional magnitude because we have shown that the execution rate among persons sentenced to die for killing a white victim is double that for similarly situated defendants who were sentenced to death for killing a black victim.

But this intuitive reaction is not obviously borne out in the case law. Not only does *McCleskey* seem to bar relief based on showings of general systemic disparities, it is even harder to imagine that a challenge to an appellate system (as opposed to an executive action) that produces disparate or arbitrary rates of relief would violate the Eighth Amendment. It is not even entirely clear who would be said to violate the Eighth Amendment in such circumstances. If legislation creates a death penalty that operates at the sentencing level in a fair, non-discriminatory manner, then does that capital sentencing system run afoul of the Eighth Amendment when appellate courts grant relief in an arbitrary manner resulting in racially disparate execution rates? Stated differently, can arbitrariness in the operation of the appellate proceedings invalidate an otherwise constitutional death penalty system?[183]

In the context of executive clemency, the overriding assumption among scholars seems to be that arbitrary post-sentencing leniency does not violate the Eighth Amendment. This assumption is not without reason. For example, when it comes to arbitrariness in the clemency process, the decision in *Ohio Adult Parole Auth. v. Woodard* is notable insofar as it rejected a defendant's challenge to Ohio's clemency process for death sentenced prisoners as procedurally unfair.[184] Under Ohio law, the "Governor retains complete discretion to make the final" clemency determination and certain timing and procedural requirements seemed to present a colorable claim of unfairness for the death sentenced prisoners in the state, but in a plurality opinion authored by Chief Justice Rehnquist, four Justices explained that because "pardon and commutation decisions have not traditionally been the business of courts. . . they are rarely, if ever, appropriate subjects for judicial review."[185] Relying on authority from a non-capital case, the plurality concluded that a prisoner's effort to obtain clemency "is simply a unilateral hope" and beyond judicial review because the prisoner's interest in relief "is indistinguishable from the initial resistance" to being sentenced to death, and that interest "has already been extinguished by the conviction and sentence."[186] Clemency determinations, unlike appeals, were treated as a "matter of grace, thus allowing the executive to consider a wide range of factors not comprehended by earlier judicial proceedings and sentencing determinations."[187] Based on this reasoning, many are tempted to conclude that the constitution is entirely unconcerned with arbitrary systems of clemency. There is a sense that arbitrary mercy is better than no mercy when it comes to defendants who have no judicial right to revisit or further challenge their sentence.

But concurring in the decision in *Ohio Adult Parole Auth.*, Justice O'Connor writing for four Justices objected to the plurality decision's conclusion that "because clemency is committed to the discretion of the executive, the Due Process Clause provides no constitutional safeguards."[188] Rejecting the sort of lottery model for post-sentencing relief that we posited earlier in this section, the concurring Justices reasoned that some "minimal procedural safeguards" applied to clemency proceedings and that, even when the same process was made available to everyone, judicial relief would be "warranted in the

[183] One might also ask whether claims of arbitrary appellate relief are claims that the system is facially unconstitutional, or is such a claim only available to persons who believe that racial arbitrariness infected their individual appeal, and if the latter is correct, then hasn't empirical data about execution rates been relegated to irrelevance.
[184] Ohio Adult Parole Auth. v. Woodard, 523 U.S. 272 (1998).
[185] *Id*. at 278,280 (quoting Dumschat 452 U.S. at 464).
[186] *Id*. at 280.
[187] *Id*. at 281 ("The reasoning of Dumschat did not depend on the fact that it was not a capital case.").
[188] *Id*. at 288 (O'Connor, J., concurring).

face of a scheme whereby a state official flipped a coin to determine whether to grant clemency."[189] The four concurring Justices ultimately sided with the plurality in declaring relief unavailable in the case before them because although three days' notice of the interview and only ten days' notice of the clemency hearing made it challenging for the death sentenced prisoners to be well-prepared, the procedures were not so unfair or arbitrary as to violate the constitution.[190]

The O'Connor concurrence ultimately begs an important question: What is it about flipping a coin that is so unfair as to implicate due process? Why is it that we can take for granted that a coin-toss procedure for deciding who to execute would run afoul of the constitution? A coin-toss may simply not comport with the sort of appearances of fairness that society demands when it comes to death sentences. Notably, the research presented in this Article shows that the race of the victim produces rates of post-sentencing relief that are more arbitrary than a coin toss. As long as the coin is flipped similarly in all cases, the race of the defendant or the victim is entirely irrelevant. Complete randomness (arbitrariness in the non-technical sense) is preferable to a system that is patterned on improper considerations such as race or geography. Put differently, if a lottery or coin toss are unconstitutional, then it cannot be gainsaid that a rigged, or patterned lottery is unconstitutional.

In total, five Justices in *Ohio Adult Parole Authority* concluded that a certain level of unfairness in the process for determining execution-selection – that is, the post-sentencing procedures for determining who is actually executed – will give rise to a constitutional violation.[191] One could fairly argue that the post-sentencing procedures for determining who will actually be executed operate with the same degree of arbitrariness as a rigged lottery, and thus must be treated as unconstitutional. But perhaps the analogy breaks down on closer scrutiny. A truly rigged lottery, or the use of a three-sided dice as opposed to a coin, would surely violate the constitution; it is effectively *de jure* discrimination. Arguably, however, our data showing that the race of the victim is predictive of who will ultimately be executed is only *de facto* discrimination. There may be a constitutionally significant difference between the governor who, for example, tosses a three-sided dice that is rigged in favor of executing persons who kill white victims, and a governor who executes persons whose victims are more likely to provide valuable fodder for her upcoming campaign, or who are particularly sympathetic in the media. The coin-tossing governor and the Machiavellian governor might end up executing the same set of persons, but only the former system seems to operate with overtly discriminatory processes.[192]

If it is taken as a given that the sentencing statute at issue is constitutional, and the defendant was sentenced through a process that was constitutional, the hard question is whether non-overt discrimination that arises over time, through years of accretion, amounts to an Eighth Amendment violation. There are at least two salient barriers to judicial relief based on patterned arbitrariness in the rates of execution relief: (1) *McCleskey v. Kemp;* and (2) the absence of Eighth Amendment protections for appellate procedures under existing law.

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[189] *Id*. at 289 (O'Connor, J., concurring).

[190] *Id*.

[191] Justice Stevens provided the fifth vote in his dissent. *Id*. at 290–91 (joining the concurrence in rejecting the reasoning that "even procedures infected by bribery, personal or political animosity, or the deliberate fabrication of false evidence would be constitutionally acceptable.").

[192] Our research has not uncovered governors, parole boards or judges engaging in explicitly racialized procedures to determine who will be executed. Unlike the governor who engages in a rigged lottery, is an unusually lenient or defendant-friendly appellate court violating the Eighth Amendment because the judicial district happens to have appeals in fewer cases with white victims?

Starting with the latter concern, the Court's death penalty cases provide no clear support for the proposition that arbitrary rates of relief in the post-sentencing phases of a capital case could violate the Eighth Amendment. In stark contrast to the large and complicated body of procedural rules that apply to the sentencing phase of a case based on the Court's construction of the Eighth Amendment[193], the Court has all but eschewed the notion that the Eighth Amendment has any relevance in the context of appellate procedures. Among the features of the revised Georgia system that the Court highlighted in *Gregg* as justifying the conclusion that Georgia's newly revised system now survived Eighth Amendment scrutiny was the fact that each death sentenced individual was entitled to mandatory appellate proportionality review.[194] Each death sentence had to be reviewed by the Georgia Supreme Court to assess whether the penalty was disproportionate as compared to others who committed similar crimes. Significantly, however, in a subsequent decision, *Pulley v. Harris*, the Court held that while proportionality review of death sentences is laudable as a means of ensuring fairness, it is not required by the Eighth Amendment.[195] Likewise, the Court has never squarely held that a system of mandatory appellate review is required by the Eighth Amendment – that is, it is not even clear that if a state eliminated its system for appellate review entirely in death penalty cases that this would automatically violate the Eighth Amendment.[196]

On the other hand, it is hard to find fault in the conclusion that the reasoning of *Ohio Adult Parole Authority* in taking for granted that a coin-toss, much less a rigged coin toss would be unconstitutional would not apply with equal force to both executive and appellate proceedings. If a state's backlogged courts implemented a lottery system for capital relief, thus reducing its caseload, and retained ordinary appellate review to defendants who did not prevail in the lottery, we would assume a constitutional violation existed. And certainly if the entire appellate process was converted to an unfair lottery, there is reason to believe that the claims of constitutional injury would be even more compelling insofar as the Supreme Court has recognized appellate proceedings as "an integral part of the ... system for finally adjudicating the guilt or innocence of a defendant."[197] Because of the relationship between fair adjudications of guilt and reliable "procedures used in deciding appeals," unfair appellate procedures violate due process, and probably the Eighth Amendment as well in capital cases. Bribery, overt racism or sexism, or other unseemly judicial conduct in determining who will not be executed, thus, would give rise to a constitutional claim.[198]

But even if the Eighth Amendment, while not requiring capital appeals, could be interpreted as imposing a requirement of procedural fairness on all appeals if those appeals are mandated by statute, as they are in every state,[199] *McCleskey v. Kemp* presents a formidable barrier to relief based on data showing systemic arbitrariness, as opposed to animus or discrimination in individual cases. Racial disparities at a systemic level do not provide a basis for relief under the reasoning of *McCleskey*, and thus courts might conclude that our data showing that, controlling for other factors, the race of the victim is a strong predictor of who will actually be executed is constitutionally irrelevant. Put differently, courts might hold that until *McCleskey* is overruled and sentence-selection arbitrariness is recognized as constituting a claim for relief, evidence of arbitrary rates of relief in the execution-selection phase of the case is constitutionally irrelevant. On the other hand, maybe overturning *McCleskey* is not a necessary antecedent step, and instead perhaps

[193] *See*, Carol S. Steiker & Jordan M. Steiker, Sober Second Thoughts: Reflections on Two Decades of Constitutional Regulation of Capital Punishment, 109 HARV. L. REV. 355, 415 (1995) (cataloguing the reforms that govern modern sentencing law).
[194] Gregg v. Georgia, 428 U.S. 153 (1976).
[195] Pulley v. Harris, 465 U.S. 37 (leaving open the possibility that the absence of proportionality review could violate the Eighth Amendment in certain circumstances not before the Court).
[196] Halbert v. Michigan, 545 U.S. 605 (2005).
[197] Evitts v. Lucey 469 U.S. 387, 393, 105 S.Ct. at 834 (quoting *Griffin v. Illinois*, 351 U.S. 12, 18, 76 S.Ct. 585, 590, 100 L.Ed. 891 (1956)).
[198] Williams v. Pennsylvania, 579 U.S. __ (2016).
[199] *Cf. Evitts*, 469 U.S. at ___.

recognizing a constitutional claim relating to execution-selection could be the first-step towards overturning *McCleskey*. Underlying the Court's hesitation to grant McCleskey relief was, in part, a fear that doing so would invalidate the death penalty in the U.S. for the second time in just a decade. It seemed like too big of a step to abolish the power of prosecutors to seek the penalty in any case because of arbitrariness at a systemic level. But the stakes are lower if the Court is not required to hold that death sentences are unconstitutional per se, and instead is permitted to merely require some additional safeguards or procedures in the post-sentencing stage before one is ultimately executed.[200] Such a holding would seem to run counter to the modern tendency to reify finality interests and treat the trial proceedings leading to one's sentence as the "main event."[201] Still, it may prove easier for courts to take the incremental step of tinkering with the appellate machinery for a much smaller number of cases (less than two dozen per year currently) than to entirely abolish or revamp the sentencing procedures that apply to hundreds of cases per year.[202]

2. **Specific Doctrinal Interventions to Address Post-Sentencing Arbitrariness**

This Article does not fully demarcate the contours of the Eighth Amendment in the post-sentencing context, and additional scholarship should focus on the interaction between the Eighth Amendment and unintentional arbitrariness in the operation of the appellate or clemency processes. For present purposes, we offer only a couple of tentative doctrinal interventions that would help address the demonstrated arbitrariness in the selection of who is executed.

First, and perhaps most significantly, it is not inconceivable that states will simply reject *McCleskey* as a matter of state law, thus freeing them to consider directly the unconstitutionality of patterns of arbitrariness in the execution-selection process. The Washington Supreme Court recently did just that when it observed that Washington's "current [death penalty] statute is nearly identical to the Georgia Statute" at issue in *McCleskey*[203] and, nonetheless, rejected the reasoning of *McCleskey* and held that data regarding racial disparities in the sentencing phase of the death penalty rendered the system unconstitutional.

Beyond state constitutional claims, additional scholarly attention should be devoted to the interaction between the constitution and actual executions. For now, we offer a couple of preliminary doctrinal thoughts about how federal courts might respond to findings of racial disparities arising out of post-sentencing procedures.

First, when it comes to arbitrary or seemingly discriminatory applications of the post-sentencing power to grant relief, we think that an analogy to the *Batson v. Kentucky* framework might be useful.[204] *Batson* prohibits a prosecutor from removing jurors in a racially discriminatory manner, and notably it does not require any smoking-gun evidence of racial bias; instead it sets out a three-part test for establishing an unconstitutionally race-based exercise of state authority. The first-stage of the *Batson* inquiry requires a defendant to a make a "prima facie case" of discrimination, and any bare statistical showing of disparate

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[200] The precise nature of the reforms that might address the arbitrariness we identify is beyond the scope of this Article. Suffice to say mandatory proportionality review, like that mandated in Georgia throughout the cases we studied, did not have an ameliorative effect on the sentencing phase arbitrariness detected by Baldus.

[201] Wainwright v. Sykes, 433 U.S. 72 (1977); Paul Bator, *Finality in Criminal Law and Federal Habeas Corpus for State Prisoners*, HARV. L. REV. (1963).

[202] Subsequent research should consider the viability and contours of federal legislation, pursuant to Section 5 of the Fourteenth Amendment, that would make a Racial Justice Act a mandatory feature of state death penalty systems. Such legislation failed in the past, but with support for the death penalty dwindling and in light of the concerns about racism within the system, legislation could be enacted that required states to rebut evidence of racially disparate outcomes before carrying out executions.

[203] State v. Gregory, 427 P.3d 621, 627 (Wash. 2018).

[204] Batson v. Kentucky, 476 U.S. 79 (1986); Foster v. Chatman, 136 S. Ct. 1737, 1740, 195 L. Ed. 2d 1 (2016).

racial impact will suffice. Once a prima-facie case has been made, the burden shifts to the state to offer a race neutral explanation for the statistical evidence of disparate racial impact, and the Court has made clear that this burden may not be satisfied by "mere general assertions that its officials did not discriminate or that they properly performed their official duties."[205] Likewise testimony or affidavits stating that everyone involved acted "in good faith" and without discriminatory motive will not suffice.[206] Finally, where the state succeeds in offering a race neutral explanation, the Defendant is entitled to an opportunity to rebut the proffered race-neutral explanation and prove by a preponderance of the evidence that the proffered explanation is pretext.

As applied to executions, the original research presented in this paper would suffice to make a prima facie case of disparate treatment among those sentenced to death, and so the burden would shift to the state.[207] No doubt state lawyers would respond that the appellate and clemency procedures ensure that only the most egregious cases result in actual executions, and that race has no impact on these processes. It is the heinousness of the killing and not the race of the victim that is actually predictive of who will be executed, the states would respond.[208] In the face of this race-neutral explanation, the death sentenced prisoners would have the burden of rebuttal. But such prisoners would have a strong claim that the race-neutral explanations for who is actually executed are unavailing given that the regressions presented in this paper show that, controlling for the heinousness of the crime, the race of the victim is still a strong predictor of who will actually be executed. In cases involving the removal of jurors, the Supreme Court has repeatedly held that "if a prosecutor's proffered reason for striking a black panelist applies just as well to an otherwise-similar nonblack [panelist] who is permitted to serve, that is evidence tending to prove purposeful discrimination."[209] In the context of executions, protestations by a state that it is acting in good faith and simply complying with procedures that ensure that only the most deserving crimes will result in executions may fail insofar as the explanation "applies just as well" to persons who kill non-white victims. As we have shown, the race of the victim is a better predictor than the existence of one additional aggravating factor that one will ultimately be executed.

Accordingly, particularly in a context where the pattern of execution decisions made by a single decision-maker can be reviewed, such as executive clemency proceedings, the *Batson* framework may provide a useful doctrinal framework for challenging racial disparities in the execution context.[210] The utility of a *Batson*-styled claim against an entire appellate system should also be explored, though there are practical differences in the ways and reasons relief is granted in such systems that make the analogy to *Batson* less forceful. Moreover, there may be limits to the force of a *Batson* analogy in this context. For example, *Batson* is a tool for revealing sub rosa discriminatory intent, but the crux of the claim is a showing

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[205] *Batson*, 476 U.S. at 94 (1986).

[206] *Id*.

[207] Of course, our research is not directly analogous to the sort of racial discrimination targeted in *Batson*. We show disparity among those who are actually executed based on the race of the victim, not the race of the offender himself.

[208] The alternative race-neutral explanation is that the cases with the best claims for legal relief result in appellate reversals. But given the disparities our research reveals, this requires one to believe that vastly more meritorious claims of constitutional error arise when the victim of a murder is non-white. In a subsequent article we will examine the circumstances in which relief was granted in the cases within our dataset.

[209] Foster v. Chatman, 136 S. Ct. 1737, 1754 (2016) (quoting *Miller-El v. Dretke*, 545 U.S. 231, 241 (2005)).

[210] We acknowledge that applying *Batson* review to the decisions of multiple different actors over long periods of time is less consistent with currently existing doctrine. But scholarly treatises have considered such expansions of the doctrine in other contexts. *See, e.g.*, *Probable cause and racial profiling—Establishing a claim of race-based law enforcement—Batson-inspired approach—Proposed approach*, 2A GILLESPIE MICH. CRIM. L. & PROC. § 28:32 (2d ed.) ("the proposed approach sets out a three-part test for establishing unconstitutional, race-based police exercise of discretion in the course of police-citizen contacts."). Jennifer A. Larrabee, *DWB and Equal Protection: The Realities of an Unconstitutional Police Practice*, 6 J L & POLICY 291, 295-296 (1997).

of *actual* discriminatory intent demonstrated through circumstantial evidence. When it comes to challenges to a state's death penalty system (as opposed to, for example, a governor's clemency grants), it is more likely that a court would find that the legislation permitting the death penalty was enacted for crime control reasons – that is, the state system was enacted in spite of foreseeable racial effects, and not because of it. The benefit of *Batson* in this context would be the opportunity to shift the burden to the State, but unlike a more comprehensive Racial Justice Act, it seems that under such a framework systemic challenges to the State's death penalty system would rarely succeed.

Our second doctrinal intervention is to apply to the execution-selection process the same framework that *Furman* applied to sentence imposition. Under this framework, the state is obligated to operate a system that at the end of the day *executes* (not just *sentences*) the worst of the worst. The research presented in this Article proves that arbitrariness pervades the execution process. Such a claim is not dependent on findings of racial discrimination per se, but rather hinges on the arbitrary operation of the system in failing to execute the most culpable defendants. As District Court judge Cormac Carney reasoned, "Arbitrariness in execution is still arbitrary, regardless of when in the process the arbitrariness arises."[211]

More specifically, the Justices in the *Furman* majority held that death penalty sentencing functioned like a fatal and unpredictable lottery. Out of all the persons eligible for the ultimate sentence, a very small and seemingly "random handful" were actually sentenced to death.[212] The utter infrequency of the penalty relative to the number of people eligible represented a form of unconstitutional arbitrariness violating the 8th Amendment. As Justice White put it, "I cannot avoid the conclusion that as the statutes before us are now administered, the penalty is so infrequently imposed that the threat of execution is too attenuated to be of substantial service to criminal justice."[213] The "very rarity of death sentences--like the low odds of being struck by lightning" was one of the factors that doomed the death penalty to unconstitutionality in *Furman.*[214] Our data shows that the rate of execution among those sentenced to death is also about 20%, thus raising the same sort of concerns about discretionary death penalty procedures becoming "pregnant with discrimination."[215]

By its plain terms *Furman* applies to arbitrariness in the selection of who is sentenced to death, but the reasoning applies with equal force to arbitrariness in the selection of who is actually executed. It would be odd to imagine that the Eighth Amendment prohibits "a state from randomly selecting which few members of its criminal population it will sentence to death, but [allows] that same state to randomly select which trivial few of those condemned it will actually execute."[216]

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[211] Jones v. Chappell, 31 F. Supp. 3d 1050, 1063 (C.D. Cal. 2014), rev'd sub nom. Jones v. Davis, 806 F.3d 538 (9th Cir. 2015) (reversed under *Teague v. Lane* for announcing a new rule of constitutional law).

[212] *Furman*, 408 U.S. at 309–10 ("death sentences are cruel and unusual in the same way that being struck by lightning is cruel and unusual.").

[213] *Id.* at 313 (White, J., concurring).

[214] Kamin & Marceau, *supra* note 173, at 983. The fear that only a miniscule number of persons are ultimately subjected to the penalty is also magnified by our data. Of the 2,475 death-eligible defendants for whom the final outcome of the case is known, just 24 were executed. Most death-eligible persons were not sentenced to death, as Baldus showed, and our research now shows that even among those sentenced to death, around 80% avoided an actual execution.

[215] Furman v. Georgia, 408 U.S. 238, 256–57 (1972) (Douglas, J., concurring). *Id.* at 310 (Stewart, J. concurring) ("if any basis can be discerned for the selection of these few to be sentenced to die, it is the constitutionally impermissible basis of race.").The execution rate is either 19% (24/127) or 20% (24/119) depending on whether the eight defendants whose cases were resolved outside the judicial system are included in the denominator.

[216] Jones v. Chappell, 31 F. Supp. 3d 1050, 1063. *Id*. at 1062 ("Of course, for an arbitrarily selected few of the 748 inmates currently on Death Row, that remote possibility may well be realized. Yet their selection for execution will not depend on whether their crime was one of passion or of premeditation, on whether they killed one person or ten,

To be sure, any challenge to the discretion inherent in governors and judges who enjoy the authority to grant persons sentenced to death relief will be met with historical and practical skepticism. When a judge decides to entertain as a matter of discretion an extraordinary motion for a new trial, or when the governor commutes a sentence, these decisions are largely unreviewable precisely because they are matters delegated to the discretion of these figures. Even decisions about how the state constitution applies to novel fact-patterns will amount to discretionary decisions beyond the review of any federal judge. Discretion is an entrenched reality in these spheres. As the Supreme Court put it, "the executive's clemency authority would cease to be a matter of grace committed to the executive authority if it were constrained by the sort of procedural requirements" applicable to other proceedings. [217] And this is a valid point. In each of the cases we studied, it is a truism that the individual "is already under a sentence of death, determined to have been lawfully imposed," and thus if "clemency is granted, he obtains a benefit; if it is denied, he is no worse off than he was before."[218] Nonetheless, the discretion enjoyed by judges and governors is not the only or even the most celebrated discretion in our justice system: Jurors and prosecutors enjoy almost unchecked discretion with an unrivalled historical pedigree.[219]

Yet in *Furman v. Georgia* and *Zant v. Stephens*[220] the Court held that the discretion typically enjoyed by juries and prosecutors must be subject to some additional constraints in the context of capital prosecutions. It is not sufficient for Eighth Amendment purposes, explained the Court, that low death sentencing rates are the product of discretionary decisions made by juries and prosecutors about who deserves death.[221] Discretion that begets disparate or seemingly arbitrary outcomes is subject to judicial oversight. The relevant Eighth Amendment law stands for the proposition that arbitrary mercy or the unpredictable imposition of death sentences violates the Eighth Amendment.[222] Arbitrariness in the administration of capital punishment – whether at the sentencing or execution stage – is contrary to the lodestar of the modern death penalty, *Furman v. Georgia.* Thus, there is some force to the argument that if arbitrary grants of mercy at the front-end of the system – juries and prosecutors – can violate the Eighth Amendment, then so too can back-end arbitrariness on the part of appellate courts and the executive branch.[223] At bottom, the modern *Furman-type* claims are assertions that empirical data undermines the theory of *Gregg* and its progeny that guided discretion statutes together with various procedural tweaks would result in a system that reliably executed the worst of the worst.[224] Our study is one more contribution to that set of empirical data – and a particularly potent one because it shows that the post-sentence protections *Gregg* relied upon have at minimum not worked and indeed may have worsened matters.

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or on any other proxy for the relative penological value that will be achieved by executing that inmate over any other. Nor will it even depend on the perhaps neutral criterion of executing inmates in the order in which they arrived on Death Row.").

[217] Ohio Adult Parole Auth. v. Woodard, 523 U.S. 272, 285 (1998).

[218] *Id*.

[219] Inmates of Attica Case (noting that prosecutorial discretion is generally beyond the scope of judicial review and is virtually absolute in the absence of tangible evidence of discrimination or similar impropriety); Duncan v. Louisiana 391 U.S. 145 (noting that the reason the jury right was incorporated is so that defendants may enjoy the untutored discretion of their peers as opposed to the legal expertise of a judge).

[220] Furman v. Georgia, 408 U.S. 238 (1972); Hance v. Zant, 511 U.S. 1013, 1013 (1994)

[221] *Hance*, 511 U.S. at 1013.

[222] *See, e.g.*, Kamin & Marceau, *supra* note 173 (summarizing the decisional law and academic commentary on this point).

[223] Baldus noted that the prosecutors and juries who appeared to have their assessment of culpability colored by race were "probably quite unaware of the connection between their culpability perceptions and the race of the victim." BALDUS, WOODWORTH & PULASKI, *supra* note 6, at 79 n.59. We suspect that judges are similarly unaware of the role that implicit bias plays in who gets relief from a death sentence.

[224] This is exactly the conclusion reached by Justices Blackmun and Stevens after years of experience.

In short, research showing disparate rates of post-sentencing relief in capital cases presents courts with a conundrum. On the one hand, it is arguably an overreaction to strike down a death penalty system as a whole just because constitutionally imposed sentences are not always carried out. And yet, when the process for determining who will not be executed amplifies sentencing stage arbitrariness, the constitution is arguably implicated. David Baldus showed that race was relevant to who was sentenced to death, and our research shows that the racial disparities he documented are exacerbated considerably through post-sentencing proceedings that determine who will actually be executed. At the very least, a death penalty system must be viewed as no better than the sum of its parts, and now with the benefit of the original research in this Article, for the first time courts can make a clear-eyed assessment of whether the full range of racial disparities arising over the course of a case are constitutionally relevant. It no longer suffices for courts to simply reiterate the holding of *McCleskey*, because our data demonstrates that the problem is much greater than could have been known at the time when that case was decided.

Conclusion

In 1990 David Baldus published his seminal book *Equal Justice and the Death Penalty*, which details his findings from and methodology for studying Georgia's death penalty. On the back-cover of the book, William Bowers writes that Baldus provided a "landmark study" that shows "the extent of arbitrariness and discrimination under Georgia's post-*Furman* capital statute."[225] However, this Article demonstrates that in fact Baldus's work could not yet have shown the full "extent" of arbitrariness and discrimination underlying the death penalty. Baldus's work studied cases "from the point of indictment to the penalty-trial sentencing decision," and found that "prosecutorial discretion is the principal source of the race-of-victim disparities" in the system.[226] We have now shown that Baldus actually underestimated the scope of racial disparity in our justice system. It turns out that that appellate courts and governors inject an additional, previously undocumented level of racial disparity into the system.

Put differently, our research shows that the infamous arbitrariness uncovered by Baldus was only the tip of the iceberg. It turns out that racial disparities persist, and are even exacerbated by the processes of determining who among the persons sentenced to death is actually executed. Whereas previous research had thoroughly documented the unseemly role of race in predicting who would be sentenced to death, this Article demonstrates that, even in the stages of a case *after* a death sentence has been imposed, the race of one's victim is an important factor in determining who will be executed. Most persons sentenced to death are not executed, but the rate of relief is higher for persons who kill black victims.[227] Controlling for other factors, among the persons sentenced to death in Baldus's dataset, the odds of execution are at least twice as great, and perhaps almost five times as great, if the victim is white. Baldus wrote in 1990 that the "most striking feature of capital sentencing in the United States, both before and after *Furman*, is the infrequency with which death sentences are imposed."[228] His research showed that it was prosecutorial discretion that continued to "dominate the system" and decide who was sentenced to death, not legislative standards. By expanding the Baldus data, we now show that this patterned lottery continues, and even gets worse in the post-sentencing phases of a capital case. The arbitrariness at the sentencing phase (the sentencing selection) is exacerbated through the procedures that determine who will actually be executed (the execution selection).

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[225] *See* BALDUS, WOODWORTH & PULASKI, *supra* note 6.
[226] *Id.* at 403.
[227] We are in the process of developing a qualitative and quantitative explanation for how the race of the victim could be impacting appellate court outcomes and will report these findings in a subsequent Article.
[228] BALDUS, WOODWORTH & PULASKI, *supra* note 6, at 398 (noting that the sentence was imposed in only a fraction of the cases in which the penalty was authorized by law).

More than three decades after it was handed down, the Supreme Court's refusal to grant Warren McCleskey relief based on Baldus's data remains "one of the most notorious decisions the Supreme Court has reached in the past seventy years."[229] The decision enshrined the racially disparate application of our death penalty system as an unavoidable and apparently tolerable cost of retaining the death penalty. It is well-known that just a few years after the 5-4 decision was handed down in *McCleskey*, the author of the majority opinion, Justice Lewis Powell, told an interviewer that the one vote he regretted during his time on the Court was his decisive vote in *McCleskey*.[230] In recent years, state courts, a block of Supreme Court Justices, and numerous scholars have shown a resurgent interest in revisiting the tarnished underpinnings of the *McCleskey* decision, and at the same time, scholars have begun to acknowledge the dearth of quantitative research about actual executions as opposed to mere sentences of death.[231] This Article provides a fresh perspective for courts and policy-makers considering the propriety of the death penalty by showing that the impact of race is even greater than previously known.

[229] Gross, *supra* note 5, at 771.

[230] David Von Drehle, *Retired Justice Changes Stand on Death Penalty*, WASH. POST (June 10, 1994), https://www.washingtonpost.com/archive/politics/1994/06/10/retired-justice-changes-stand-on-death-penalty/9ccde42b-9de5-46bc-a32a-613ae29d55f3/?utm_term=.c996496c1393. Powell also He also "acknowledged that he had been hampered by his limited understanding of statistics as he evaluated the claims of racial disparity." Donohue, *supra* note 24, at 106.

[231] Kovarsky, *supra* note 9.

Appendix A. Condemned Defendants in the CSS Who Have Been Executed[1]

Defendant (s)	*County of Conviction*	*Date of Crime*	*Date of Sentence*	*Date of Execution*	*Race of Defendant*	*Kill White Victim*
Alderman, Jack Edward	Chatham	9/21/1974	6/18/1975	9/16/2008	White	Yes
Blankenship, Roy Willard	Chatham	3/2/1978	4/28/1980	6/23/2011	White	Yes
Bowden, James	Muscogee	10/10/1976	12/9/1976	6/24/1986	Black	Yes
Burger, Christopher A	Wayne	9/5/1977	1/25/1978	12/7/1993	White	Yes
Gilreath, Fred Marion	Cobb	5/11/1979	3/3/1980	11/15/2001	White	Yes
Green, Roosevelt	Monroe	12/12/1976	1/28/1978	1/8/1985	Black	Yes
Hance, William Henry	Muscogee	2/28/1978	12/16/1978	3/31/1994	Black	No (original), Yes (modified)
High, Jose Martinez	Taliaferro	7/26/1976	12/1/1978	11/6/2001	Black	Yes
Isaacs, Carl Junior	Seminole	5/14/1973	1/3/1974	5/6/2003	White	Yes
McCleskey, Warren	Fulton	5/13/1978	10/12/1978	9/25/1991	Black	Yes
McCorquodale, Timothy	Fulton	1/16/1974	4/12/1974	9/21/1987	White	Yes
Messer, James	Polk	2/13/1979	2/7/1980	7/28/1988	White	Yes
Mitchell, William	Worth	8/11/1974	11/5/1974	9/1/1987	Black	Yes
Mulligan, Joseph Holcombe	Muscogee	4/13/1974	11/4/1976	5/15/1987	Black	No
Smith, John Eldon	Bibb	8/31/1974	1/30/1975	12/15/1983	White	Yes
Solomon, Van Roosevelt and Jones, Brandon Astor	Cobb	6/17/1979 6/17/1979	9/27/1979 10/11/1979	2/20/1985 2/3/2016	Black	Yes
Spivey, Ronald Keith	Muscogee	12/28/1976	6/30/1977	1/24/2002	White	Yes
Stanley, Ivon Ray	Decatur	3/12/1976	1/15/1977	7/12/1984	Black	Yes
Stephens, Alpha Otis O'Daniel	Bleckley	8/21/1974	1/21/1975	12/12/1984	Black	Yes
Stevens, Thomas Dean	Wayne	9/5/1977	1/26/1978	6/28/1993	White	Yes
Tucker, Richard	Bibb	9/15/1978	1/11/1979	5/22/1987	Black	Yes
Tucker, William Boyd	Muscogee	8/20/1977	3/9/1978	5/29/1987	White	Yes
Willis, Henry	Cook	2/11/1976	4/16/1976	5/18/1989	Black	Yes
Young, John	Bibb	12/7/1974	1/9/1976	3/20/1985	Black	Yes

Notes

[1] Dates were derived from two sources: the Charging and Sentencing Study and the Georgia Department of Corrections (DOC). In a small number of cases, the dates did not match. In the event of a discrepancy, we used the date provided by the DOC (unless the DOC date is clearly wrong, such as a sentencing date before the crime).

Appendix B. Georgia's Statutory Aggravators[1] [2]
Statutory Aggravator 1: The offense of murder, rape, armed robbery, or kidnapping was committed by a person with a prior record of conviction for a capital felony. (variable name: LDFB1)
Statutory Aggravator 2: The offense of murder, rape, armed robbery, or kidnapping was committed while the offender was engaged in the commission of another capital felony or aggravated battery, or the offense of murder was committed while the offender was engaged in the commission of burglary or arson in the first degree. (variable name: LDFB2)
Statutory Aggravator 3: The offender by his act of murder, armed robbery, or kidnapping, knowingly created a great risk of death to more than one person in a public place by means of a weapon or device which would normally be hazardous to the lives of more than one person. (variable name: LDFB3)
Statutory Aggravator 4: The offender committed the offense of murder for himself or another, for the purpose of receiving money or any other thing of monetary value. (variable name: LDFB4)
Aggravator 5: The murder of a judicial officer, former judicial officer, district attorney or solicitor, or former district attorney or solicitor was committed during or because of the exercise of his official duty. (variable name: LDFB5)
Statutory Aggravator 6: The offender caused or directed another to commit murder or committed murder as an agent or employee of another person. (variable name: LDFB6)
Statutory Aggravator 7: The offense of murder, rape, armed robbery, or kidnapping was outrageously or wantonly vile, horrible, or inhuman in that it involved torture, depravity of mind, or an aggravated battery to the victim. (variable name: LDFB7)
Statutory Aggravator 8: The offense of murder was committed against any peace officer, corrections employee, or fireman while engaged in the performance of his official duties. (variable name: LDFB8)
Statutory Aggravator 9: The offense of murder was committed by a person in, or who has escaped from, the lawful custody of a peace officer or place of lawful confinement. (variable name: LDFB9)
Statutory Aggravator 10: The murder was committed for the purpose of avoiding, interfering with, or preventing a lawful arrest or custody in a place of lawful confinement, of himself or another. (variable name: LDFB10)
Notes: [1] Georgia's statutory aggravators are listed in Baldus et al. 1990, page 35. [2] No defendant was sentenced to death for statutory aggravator 5.