JOURNAL OF
EMPIRICAL LEGAL STUDIES

Journal of Empirical Legal Studies
Volume 11, Issue 4, 637–696, December 2014

An Empirical Evaluation of the Connecticut Death Penalty System Since 1973: Are There Unlawful Racial, Gender, and Geographic Disparities?

*John J. Donohue III**

This article analyzes the 205 death-eligible murders leading to homicide convictions in Connecticut from 1973–2007 to determine if discriminatory and arbitrary factors influenced capital outcomes. A regression analysis controlling for an array of legitimate factors relevant to the crime, defendant, and victim provides overwhelming evidence that minority defendants who kill white victims are capitally charged at substantially higher rates than minority defendants who kill minorities, that geography influences both capital charging and sentencing decisions (with the location of a crime in Waterbury being the single most potent influence on which death-eligible cases will lead to a sentence of death), and that the Connecticut death penalty system has not limited its application to the worst of the worst death-eligible defendants. The work of an expert hired by the State of Connecticut provided emphatic, independent confirmation of these three findings, and found that women who commit death-eligible crimes are less likely than men to be sentenced to death.

There is also strong and statistically significant evidence that minority defendants who kill whites are more likely to end up with capital sentences than comparable cases with white defendants. Regression estimates of the effect of both race and geography on death sentencing reveal the disparities can be glaring. Considering the most common type of death-eligible murder—a multiple-victim homicide—a white on white murder of average egregiousness outside Waterbury has a 0.57 percent chance of being sentenced to death, while a minority committing the identical crime on white victims in Waterbury would face a 91.2 percent likelihood. In other words, the minority defendant in Waterbury would be 160 times more likely to receive a sustained death sentence than the comparable white defendant in the rest of the state.

Among the nine Connecticut defendants to receive sustained death sentences over the study period, only Michael Ross comports with the dictates that "within the category of capital crimes, the death penalty must be reserved for 'the worst of the worst.' " For the eight defendants on death row (after the 2005 execution of Ross), the median number of equally or more egregious death-eligible cases that did *not* receive death sentences is between 35 and 46 (depending on the egregiousness measure). In light of the prospective abolition of the Connecticut death penalty in April 2012, which eliminated the deterrence rationale for the

*Stanford Law School and NBER; email: jjd@stanford.edu.

I am grateful for the support from Yale and Stanford Law Schools; the invaluable assistance of Peter Siegelman, Patrick Culligan, and an array of Yale, University of Connecticut, and Stanford law students and research assistants, too numerous to name individually, who assisted in many aspects over the nearly eight years that I have worked on this project; and the outstanding research assistance on this paper by Vanessa Ohta.

> death penalty, *Atkins v. Virginia* teaches that unless the Connecticut death penalty regime "*measurably* contributes to [the goal of retribution], it 'is nothing more than the purposeless and needless imposition of pain and suffering,' and hence an unconstitutional punishment." Apart from Ross, the evidence suggests that the eight others residing on death row were not measurably more culpable than the many who were not capitally sentenced. Moreover, Connecticut imposed sustained death sentences at a rate of 4.4 percent (9 of 205). This rate of death sentencing is among the lowest in the nation and more than two-thirds lower than the 15 percent pre-*Furman* Georgia rate that was deemed constitutionally problematic in that "freakishly rare" sentences of death are likely to be arbitrary.

The U.S Supreme Court launched the modern death penalty era with its 1972 decision in *Furman v. Georgia*.[1] There the Court was concerned that the unchanneled discretion of prosecutors, judges, and juries led to an arbitrary administration of the death penalty. In its per curiam decision, the Court held "that the imposition and carrying out of the death penalty in these cases constitute cruel and unusual punishment in violation of the Eighth and Fourteenth Amendments."[2] Many states, including Connecticut, responded to *Furman* by enacting more specific death penalty statutes. Four years later, in *Gregg v. Georgia*,[3] the Supreme Court held that "the punishment of death does not invariably violate the Constitution" and indicated that statutes such as the one enacted in Connecticut were facially constitutional.

But over time, evidence has amassed that the procedural changes adopted in the wake of *Furman* have not fundamentally altered the problems that they were designed to address. Yet despite impressive work by David Baldus and his co-authors establishing systematic discrimination by race of victim in the administration of the Georgia death penalty, a controversial 5-4 decision of the U.S. Supreme Court in *McCleskey v. Kemp* held that this evidence does not pose a *federal* constitutional problem unless one can show purposeful discrimination in a specific case.[4]

But while *McCleskey* stands as an impediment to charges of racial discrimination under the U.S. Constitution, not all state courts have adopted a similar approach for challenges based on state constitutional protections against racial discrimination in capital outcomes. Five years after *McCleskey*, the New Jersey Supreme Court made it clear that it would not tolerate such discrimination.

> [W]ere we to believe that the race of the victim and race of the defendant played a significant part in capital-sentencing decisions in New Jersey, we would seek corrective measures, and if that failed

---

[1]408 U.S. 238 (1972).

[2]*Furman*, 408 U.S. at 239.

[3]428 U.S. 153, 169 (1976).

[4]McCleskey v. Kemp, 481 U.S. 279, 282 (1987). Justice Powell, who wrote the majority opinion in *McCleskey*, later considered his decisive vote to be an incorrect decision.

> we could not, consistent with our State's policy, tolerate discrimination that threatened the foundation of our system of law.[5]

Consistent with the New Jersey approach, evidence of racial disparities in the operation of the Connecticut death penalty regime was brought to the attention of the Connecticut Supreme Court in 1995 by death row inmate Sedrick Cobb. Acknowledging the potential seriousness of the claims of racial bias, the Connecticut Supreme Court mandated a study of the administration of capital punishment in the state to determine whether the stark racial disparities shown in the preliminary data could be explained by legitimate, neutral reasons.[6] Although the summary data that were presented to the Connecticut court were insufficient to definitively establish the presence of arbitrary or discriminatory charging and sentencing patterns, the goal of the Connecticut study was to remedy these evidentiary shortcomings by collecting detailed, case-specific data about the crime, defendant, victim, and criminal justice treatment of every death-eligible case in Connecticut from the time of the adoption of its post-*Furman* statute through 2007 (when the extensive data collection ended). This article discusses my evaluation of the operation of the Connecticut death penalty over this period, and the results of my regression analysis of the capital charging and sentencing decisions that occurred.[7]

I will also discuss some of the statistical work offered by the state's expert during a bench trial held on death row at Connecticut's Northern Correctional Institution from September through December 2012. The trial involved extensive expert testimony addressing whether the capital sentencing regime of the State of Connecticut has been unconstitutionally marred by arbitrariness involving discrimination on the basis of race, gender, and geography, as well as arbitrariness in failing to limit the application of the death penalty to the worst of the worst defendants within the class of death-eligible cases. The state's expert conceded the gender and geographic disparities in capital outcomes as well as the fact that both his own and my measures of the worst (most awful) cases did not explain capital charging or overall sentencing. The state's expert contested my finding that cases in which minority defendants killed white victims were capitally charged and sentenced at substantially higher rates.

In October 2013, the trial judge rejected the claims of the petitioners. Despite the fact that the Connecticut Supreme Court had mandated the statistical study and a motions judge had rejected the state's pretrial motion to dismiss on *McCleskey* grounds,[8] the trial judge ruled that the Connecticut constitutional claims of race discrimination were barred

---

[5]State v. Marshall, 130 N.J. 109, 209 (1992).

[6]The court ruled that Mr. Cobb should develop the necessary factual record in a special postappeal habeas action. State v. Cobb, 234 Conn. 735, 762–63 (1995).

[7]In September 2006, I took over as the expert witness for the Connecticut death row inmates in the state court litigation globally challenging the operation of the Connecticut death penalty regime.

[8]State v. Cobb, 234 Conn. 735, 762–63 (1995); In re: Claims of Racial Disparity v. Comm'r of Corr., Conn. Super, Ct R. 9-11 (2008).

by *McCleskey*. The judge also ruled that even if *McCleskey* was not an insurmountable obstacle to the claims of discrimination, he found no evidence of impermissible racial, geographic, or gender disparity in sentencing, or geographic disparity in capital charging. The judge's decision ignored the issue of racial disparity in capital charging and the claims that the death penalty had not been restricted to the worst of the worst defendants. This article addresses the evidence on all these points.

The judicial opinion in this case illustrates the difficulty that judges (and undoubtedly juries) face when they are asked to resolve competing empirical claims from opposing expert witnesses when a nonexpert's understanding of econometrics and capacity to differentiate between valid and flawed statistical findings is necessarily limited. These concerns regarding the effective use of empirical evidence by courts are not unique to the administration of the death penalty, but are broadly relevant to all domains of litigation involving complex quantitative issues.

Section I begins with a discussion of the creation of the data set of 205 death-eligible cases, the assessment of the egregiousness of each of these cases, and the relevant summary statistics for the major variables used in the regression analysis. Section II provides a summary of capital charging and sentencing in four racially defined categories of Connecticut death-eligible cases based on the race of the defendant and victim (minority/white) as well as for cases within or outside the Waterbury judicial district. The raw data reveal a consistent pattern that minority defendants who kill whites are treated most harshly yet their crimes are not the most egregious as assessed by race-blinded coders.

Section III.A presents a regression analysis of capital charging that controls for an array of factors about the defendant and victim as well as details of the crime and the location of the prosecution. This analysis of capital charging reveals highly statistically significant and robust evidence that minority defendants who kill white victims are charged with a capital felony at substantially higher rates than minority defendants who kill minority victims. Moreover, the model introduced at trial by the state's expert (when corrected for his coding error) shows the same racial disparity in capital charging.

Section III.B provides the comparable regression analysis of capital sentencing and again finds strong, statistically significant and robust evidence of racial disparity—specifically, that minority defendants who kill whites are from 50–300 percent more likely to receive a sustained death sentence than are white defendants committing similar crimes. The state's expert offered a problematic sentencing regression to rebut this finding, but even that flawed analysis provides evidence, albeit not at conventional levels of statistical significance, that minority on white crimes generate death sentences at a rate about 80 percent higher than that for other death-eligible cases.

Section IV establishes that there are enormous differences across the 13 judicial districts in the state in the rates of capital charging and sentencing for similar crimes. Both experts in the case agreed that the single most important factor explaining why a death-eligible case in Connecticut received the death penalty was that the crime was prosecuted by the strongly pro-death penalty State's Attorney in Waterbury.

Section V provides evidence on Connecticut's infrequent yet insufficiently tailored application of the death penalty that fails to limit sentences of death to the worst of the worst offenders. Section VI then examines the decision of the Connecticut trial court in

October 2013 that rejected all claims that the Connecticut death penalty had been administered in any constitutionally problematic way. The difficulty that the court faced in trying to evaluate complicated statistical issues in a trial setting raises more general questions about how best to adjudicate claims dependent on econometric evidence before nonexpert judges or juries. Section VII concludes by noting that a particular racial pattern of harsher treatment of minority defendants who kill white victims has been found both in nationwide studies of the death penalty as well as in the famous Baldus study of Georgia and the Paternoster study in Maryland.

I. The Data and Connecticut's Capital Felony Law

This study explores and evaluates the application of the death penalty in Connecticut from 1973 until 2007, a period during which roughly 4,700 murders and nonnegligent homicides were committed in the state according to the FBI's Uniform Crime Reports statistics.[9] Of these 4,700 homicides, 205 are death-eligible cases that resulted in a homicide conviction, and 141 of these were charged with a capital felony. Of the 141, 49 were allowed to plead guilty to a noncapital offense. Of the remaining 92, 66 were convicted of a capital felony and 26 were acquitted of a capital felony. Of the capital felony convictions, 28 then went to a death penalty sentencing hearing, of which 12 were sentenced to death, resulting in nine sustained death sentences (after appeals), and one execution (in 2005).

A. Identifying the 205 Death-Eligible Cases

The first step in implementing the Connecticut Supreme Court's mandated analysis of the state's death penalty system was to identify the 205 death-eligible cases mentioned in the paragraph above. Conviction of a capital felony is a necessary but not sufficient condition for proceeding to a death penalty hearing that could end with a sentence of death. Therefore, the process of identifying "potentially" death-eligible cases begins with Connecticut General Statutes § 53a-54b, which sets out eight categories of murder that are capital felonies. The first five were included in the original 1973 statute and the last three were added later.[10]

1. The murder of a police officer, firefighter, corrections officer, or other law enforcement officer in the performance of his or her duties.
2. Murder committed for pecuniary gain, where either the defendant committed the murder or hired someone else to commit the murder.

---

[9]The effective date of Connecticut's post-*Furman* death penalty statute was October 1, 1973. The UCR reports 4,797 murders in Connecticut from 1973–2007 (inclusive) or 4,695 not including 1973.

[10]The original 1973 statute contained a sixth category of capital felony providing that the seller of certain illegal drugs could be deemed to have committed a capital felony if the purchaser died from using the drug. 2001 Conn. Acts 151 § 3. This factor was eliminated in 2001. I did not consider any of these inadvertently caused deaths to be death-eligible and therefore none were included in my final data set.

3. Murder committed by a defendant with a prior conviction for either intentional murder or felony murder.
4. Murder committed by a defendant who was under a sentence of life imprisonment at the time of the murder.
5. Murder committed by a kidnapper of a kidnapped person during the course of the kidnapping.
6. Murder committed in the course of a sexual assault (rape-murder) (added 1980).[11]
7. Murder of two or more persons at the same time or in the course of a single transaction (added 1980).[12]
8. Murder of a person under 16 years of age (added 1995).[13]

Any Connecticut defendant convicted of a capital felony committed after July 1, 1981, faces life in prison without the possibility of release, unless s/he receives a death sentence.[14] To enhance the penalty from life without parole to a sentence of death, the state must prove one of the following aggravating factors: (1) murder during a felony by one previously convicted of the same felony; (2) murder after being convicted of two felonies inflicting serious bodily harm; (3) murder accompanied by knowingly creating a grave risk of death to others; (4) heinous, cruel, or depraved murder; (5)–(6) murder for hire or pecuniary gain; (7) murder using an assault weapon; or (8) murder of a public safety official.[15]

A team of lawyers with experience in capital punishment cases was assembled to comb through the entire population of homicide convictions to identify which would fall within the class of death-eligible cases under the terms of Connecticut's death penalty statute. For each case that qualified, an extensive file was developed and a highly detailed data-collection instrument (DCI) was constructed, which was then converted into digital form. This team of attorneys also filled out summary descriptions of the essential facts of the case. Accordingly, the preliminary raw data for this study included both hard copies and a digital file of the DCIs as well as written case summaries for all cases that led to a homicide conviction and met the criteria for establishing a capital felony, regardless of whether the defendant was charged or convicted of a capital felony.

This preliminary set of cases was overinclusive by design since the main focus of the data-gathering team was to find every case that met the definition of a capital felony. From the broader universe of cases that could have been charged with a capital felony, further steps were then undertaken to winnow the data set down to the final sample of

---

[11]1980 Conn. Acts 335 (Reg. Sess.).

[12]Id.

[13]1995 Conn. Acts 16 § 4 (Reg. Sess.).

[14]Conn. Gen. Stat. § 53a-35a.

[15]Conn. Gen. Stat. § 53a-46a(i).

death-eligible cases by establishing both the presence of a statutorily specified aggravating factor and the absence of any blocking mitigating factor that would bar the death penalty.

I assembled my own team of researchers to both check the accuracy of all the variables distilled from the DCIs and to independently evaluate whether every case included in my study both met the definition of a capital felony under Connecticut law and also had sufficient evidence to establish an aggravating factor with no blocking mitigator present.[16] After discarding cases that did not meet all these inclusion criteria, my final data set contained 205 death-eligible cases. A case that involved multiple trials was treated as a single case with the final outcome counted as the sentence in the case (except in the analyses in Tables 8 and 9 that look at all 12 sentences of death, despite the reversals on appeal of three of those sentences).

B. Three Measures of Egregiousness or Deathworthiness of the Crimes

In addition to having detailed information about the defendants, victims, circumstances of the murders, and the strength of the evidence, I assembled two other teams to rate the egregiousness of the 205 death-eligible cases.[17] A total of 18 coders made this evaluation by reviewing each of the case summaries prepared by the team of data-gathering attorneys, who were knowledgeable about capital punishment in Connecticut. Before these summaries were viewed by the coders, however, they were stripped of information that could identify the race of the defendants and victims as well as information concerning the outcomes in the various cases.

Having a clear, transparent, intuitively plausible, and comprehensive measure of egregiousness for each case in the database is useful in a number of respects. First, a showing of even large racial (or gender or geographical) disparities in the treatment of murderers is always susceptible to the response that the cases receiving harsher treatment were more egregious than the cases that received more lenient sentencing outcomes. With a measure of egregiousness, one can control for this factor in a regression analysis exploring issues of discrimination and arbitrariness.

Second, while one could conceivably achieve the same goal by collecting information about all the details of the crime or defendant that underpin egregiousness, these factors may be hard to specify in advance (an important feature of a valid econometric evaluation),

---

[16]For example, a defendant who committed a murder that would otherwise be death-eligible because it met the definition of a capital felony (e.g., murder during the commission of a rape) and for which an aggravating factor could be established (such as that the crime was heinous, cruel, and depraved), would not be deemed death-eligible if the defendant was only 16 at the time of the commission. Inevitably, the process of case selection involved a small number of cases that demanded either close legal or factual judgment calls as to whether they were truly "death-eligible." As I show below, my results were not influenced by the inclusion or omission of these contested cases.

[17]Every coder evaluated all 205 death-eligible cases. The first set of coders were seven Yale law students at the time the coding process started with the pre-1998 cases (although some of these students had gone on to clerkships or legal jobs by the time they coded the second batch of cases that were subsequently given to me). The second set of coders were 11 University of Connecticut law students (all Connecticut residents) who coded the entire set of cases at one time. As I discuss below, the results were virtually identical whether one used only the Yale coders, only the University of Connecticut coders, or combined them in one average. I therefore relied on the overall average across all 18 coders unless otherwise noted.

and with only 205 death-eligible cases there were limits to how many explanatory variables I could plausibly include in my regression model.[18] Having a more encompassing assessment of the egregiousness of each death-eligible murder enables one to control for all known aspects of the crime that could still have a legitimate influence on capital charging and sentencing decisions.

Third, having an egregiousness measure was critical to the issue of providing empirical content to the Supreme Court's mandate that within the class of death-eligible cases, the death penalty must be restricted to the worst of the worst offenses.

Accordingly, I developed two measures of egregiousness for each case in my sample. For the first measure of egregiousness, which I call the Composite Egregiousness score, I designed a scale based on the following four factors and asked coders to rate the egregiousness of each case for each of the factors on a scale from 1 to 3, with 3 being high.

1. *Victim Suffering*, considering (1) the intensity of suffering, as measured by the degree of physical pain and/or mental anguish, and (2) the duration of suffering.
2. *Victim Characteristics*, considering (1) whether the victim was a law enforcement officer and (2) the vulnerability of the victim relative to the defendant, signaled by factors such as the victim's age, any mental or physical disability from which the victim suffered, whether the victim was outnumbered by assailants, whether the defendant held a position of authority over the victim, and whether the victim was intoxicated or high.
3. *Defendant Intent/Culpability*, considering a range of factors, including (1) the defendant's motive for committing the murder, (2) whether the death of the victim was planned, (3) whether the defendant acted rashly or in the heat of the moment, and (4) whether the defendant's judgment was compromised by, for example, psychiatric problems, drugs, or intoxication.
4. *Number of Victims*, a factor capturing the number of deaths caused by the defendant, capped at a maximum value of 3.

I then summed the scores for each of the four component factors, so that the Composite Egregiousness score for a given case could range from 4 to 12.[19]

In addition, I asked coders to independently rate the egregiousness of each case on a scale from 1 to 5, with 5 being the most egregious. The purpose of this second Overall

---

[18]The strategy of trying to identify all the aspects of the crime and the defendant that might influence capital outcomes was adopted by David Baldus in his study of the Georgia death penalty. His most fully saturated model contained 230 explanatory variables, which he was able to employ because of the much larger number of death-eligible murders and death sentences in Georgia than in Connecticut. Obviously, with only 205 death-eligible cases, I could not possibly rely on a strategy that entailed controlling for 230 explanatory factors. David C. Baldus, George G. Woodworth & Charles A. Pulaski Jr., Equal Justice and the Death Penalty: A Legal and Empirical Analysis (1990).

[19]These four factors were distilled from Connecticut's death penalty statute as well as the relevant case law interpreting that statute and defining the constitutionally permissible scope of capital punishment. Summing across all four categories artificially assumes that they each have equal weight in assessing egregiousness. In my regressions below, I also show that using each of the four components of the Composite Egregiousness measure as separate independent variables yields virtually identical results (at the cost of three additional degrees of freedom).

Egregiousness Scale was to capture more general reactions to each case and to compensate for any over- or underinclusiveness of the 4–12 Composite Egregiousness Scale. For example, the murders of law enforcement officers may tend to receive lower scores on the Composite Scale because each of these cases involved only one victim and typically did not involve prolonged victim suffering. If there is a widespread belief that murders of police officers are particularly egregious, notwithstanding the low number of victims and relatively low degree of victim suffering, then the Overall Egregiousness Scale might better capture the egregiousness of such crimes. This type of measure of the seriousness of crimes had been repeatedly validated in a number of previous studies, and in particular the use of Yale and University of Connecticut law students accorded well with the finding that young, highly educated individuals did best at reflecting the community's overall sense of crime seriousness.[20] Interestingly, when the scores were standardized according to each coder's mean, I found that the egregiousness scores on the Composite and Overall Scales were extremely similar—frequently within one-tenth of a point of each other.[21]

In filling out the DCIs, the lawyers who examined the details of each death-eligible murder were asked to check off a list of factors deemed to establish greater aggravation in the crime.[22] I tallied these checked factors into a variable called number of "special aggravating factors," as a third rough measure of egregiousness that did not involve any subjective judgment (once the factors were deemed present according to the data-gathering team of attorneys).

C. A Summary of Case Attributes

Table 1 lists summary statistics for the relevant variables. A few points should be noted. First, 68.8 percent of the 205 death-eligible cases were charged as capital felonies and 4.4 percent (nine) resulted in a sustained death sentence. Roughly 39 percent of the sample defendants were white, as were 52.7 percent of the victims. Second, 81 percent of capital-eligible murders were same-race killings, with 45 percent involving minorities and 36 percent involving whites. Third, the table shows the mean values for the number of special aggravating factors (3.7 per case) and for the Composite 4–12 and Overall 1–5 Egregiousness scores (8.4 and 3.6). In addition, the table provides overall median scores and individual median values for these two egregiousness scores, and breaks down the Composite 4–12 Egregiousness score into its four components.

---

[20]See Peter H. Rossi, Emily Waite, Christine E. Bose & Richard E. Berk, The Seriousness of Crimes: Normative Structure and Individual Differences, 39 American Soc. Rev. 224 (1974) and Cass R. Sunstein, Daniel Kahneman & David Schkade, Assessing Punitive Damages (with Notes on Cognition and Valuation in Law), 107 Yale L.J. 2071 (1997).

[21]The correlation of the average 4–12 egregiousness score and the average 1–5 egregiousness score (across our 18 coders) was 0.88.

[22]This list of special aggravators included, among others, mutilation, multiple gunshot wounds, attempt to dispose of/conceal the body after death, and victim killed in the presence of family members or friends. This is different from the list of statutory aggravating factors set forth in Connecticut's capital punishment statute, at least one of which must be present to establish the death-eligibility of a murder.

Table 1: Summary Statistics for 205 Death-Eligible Cases, 1973–2007

	Mean	SD	*Min.*	*Max.*	*# of Obs. for Which Binary Variable = 1*	N
Dependent Variables						
Capital-felony charge	0.688	0.465	0	1	141	205
Death sentence (sustained)	0.044	0.205	0	1	9	205
Independent Variables						
Defendant white	0.385	0.488	0	1	79	205
Victim white	0.527	0.501	0	1	108	205
Defendant minority/victim minority	0.449	0.499	0	1	92	205
Defendant minority/victim white	0.166	0.373	0	1	34	205
Defendant white/victim minority	0.024	0.155	0	1	5	205
Defendant white/victim white	0.361	0.481	0	1	74	205
Special aggravating factors	3.737	2.167	0	10	—	205
Stranger	0.278	0.849	0	1	57	205
Prior prison sentence (dummy)	0.432	0.497	0	1	82	190
Number of prior prison sentences imposed	1.172	1.907	0	7	—	186
Waterbury	0.059	0.235	0	1	12	205
Pre-1998 cases	0.473	0.501	0	1	97	205
Defendant female	0.068	0.253	0	1	14	205
Murder for hire	0.083	0.276	0	1	17	205
Kidnapped	0.312	0.465	0	1	64	205
Sexual assault	0.132	0.339	0	1	27	205
Multiple victims	0.376	0.485	0	1	77	205
Victim under 16	0.224	0.418	0	1	46	205
Law enforcement victim	0.034	0.182	0	1	7	205
Previous murder conviction*	0.015	0.12	0	1	3	205
Defendant sold drugs	0	0	0	0	0	205
Number of victims	1.551	1.177	1	14	—	205

	Mean	SD	*Min.*	*Max.*	*# of Obs. for Which Binary Variable = 1*	N
Independent Variables (continued)						
Composite Egregiousness score (4–12)	8.355	1.146	6.11	11.44	—	205
Composite Egregiousness score (median)	8.439	1.299	6	12	—	205
Median = 4 or 5	0	0	0	0	0	205
Median = 6	0.054	0.226	0	1	11	205
Median = 7	0.185	0.390	0	1	38	205
Median = 8	0.307	0.463	0	1	63	205
Median = 9	0.254	0.436	0	1	52	205
Median = 10	0.137	0.344	0	1	28	205
Median = 11	0.049	0.216	0	1	10	205
Median = 12	0.015	0.120	0	1	3	205
Victim suffering (1–3) (median)	2.254	0.848	1	3	—	205
Median = 2	0.220	0.415	0	1	45	205
Median = 3	0.517	0.501	0	1	106	205
Victim characteristics (1–3) (median)	2.229	0.728	1	3	—	205
Median = 2	0.420	0.495	0	1	86	205
Median = 3	0.405	0.492	0	1	83	205
Defendant culpability (1–3) (median)	2.634	0.503	1	3	—	205
Median = 2	0.346	0.477	0	1	71	205
Median = 3	0.644	0.480	0	1	132	205
Overall Egregiousness score (1–5)	3.588	0.645	2.06	4.89	—	205
Overall Egregiousness score (median)	3.654	0.762	2	5	—	205
Median = 2	0.049	0.216	0	1	10	205
Median = 3	0.376	0.485	0	1	77	205
Median = 4	0.449	0.499	0	1	92	205
Median = 5	0.127	0.334	0	1	26	205

*There is one case of a defendant, John Barletta, committing a murder while serving a life sentence for a previous murder conviction. I include this case in the category of "previous murder conviction." Because of the small number of cases in the categories "law enforcement victim" (7) and "previous murder conviction" (3), I do not separately control for them in my regressions but consider them to be the "omitted category."

NOTES: Table 1 lists summary statistics for the variables relevant to the analysis of capital charging and sentencing in Connecticut. The table shows multiple breakdowns of the two egregiousness scores (Composite 4–12 and Overall 1–5): the mean values, the overall median scores, individual median values, and, for the Composite 4–12 Egregiousness scores, breakdowns based on its three subjective components.

Fourth, only 12 cases were from the Waterbury judicial district, but, as we will see, they lead to a vastly disproportionate number of Connecticut death sentences. Fifth, fewer than 7 percent of capital-eligible defendants are female, and kidnapping and multiple-victim cases are the most common death-eligible cases with 64 and 77 cases (out of a total of 205), respectively.[23] Sixth, just under half the cases (97 of 205) occurred before the end of 1998, and were therefore collected in the first of the two phases of data collection.[24] Finally, roughly 28 percent of the cases involved stranger killings, and 40 percent (82) of the defendants had at least one prior prison sentence.

Using these data and additional explanatory variables about the crime and the defendant and victim (such as the strength of the evidence), I used multiple regression to examine the impact on capital charging and sentencing decisions of legitimate factors that bear on the deathworthiness of the 205 death-eligible cases, as well as legally suspect variables—such as race and gender of the defendant, race of victim, or judicial district in which the murder occurred.

II. Patterns of Capital Charging and Sentencing in Connecticut

Before turning to a more sophisticated regression analysis, it is useful to examine the broad patterns of capital charging and sentencing by race, gender, and region, as well as the attendant measures of egregiousness for each of these groups. Table 2 divides the 205 cases into four groups based on the race/ethnicity (white vs. minority) of the defendant and victim.[25] The first row shows the number of cases falling into each of these four categories and the second provides the three estimates of deathworthiness of the crimes: the Composite and Overall Egregiousness measures and the count of aggravating characteristics listed in the DCIs. The table then provides the percentages of cases falling in each category that is capitally charged (Panel 1) and capitally sentenced (Panel 2), for the nine sustained death sentences. For each row in the table, I have bolded the highest value across the four categories. The bottom line is that the bolded items show that the harshest treatment falls on minority defendants who kill whites, yet these are *not* the worst crimes on average.

A. Minority on White Crimes Have the Highest Capital Sentencing Rates

The raw data in Panel 2 of Table 2 reveal strongly disparate racial outcomes in the imposition of sustained death sentences in the Connecticut death penalty system that are not explained by the average patterns of egregiousness and other aggravating factors of the crimes involved. Specifically, minority defendants who commit capital-eligible murders of

---

[23]Of the multiple victim cases, 62 involved two victims, seven involved three victims, and eight involved four or more.

[24]Six of the 97 cases that occurred before the end of 1998 were added in the second phase of data collection.

[25]"Minority" refers to Hispanics and nonwhites. "White" therefore refers to non-Hispanic whites.

Table 2: Capital Charging and Death Sentencing Rates in Connecticut for 205 Death-Eligible Cases by Race of Defendant/Victim

	1. Total—205	*2. Minority/White—34*	*3. Minority/Minority—92*	*4. White/White—74*	*5. White/Minority—5*
Means for 4–12 and 1–5 Egregiousness & special aggravating factors	(8.4, 3.6, 3.7)	(8.2, 3.6, 3.9)	(8.2, 3.4, 3.5)	(8.6, 3.8, **4.0**)	(**9.0**, **3.8**, 2.8)
1. Rate of capital felony charging (% and ratio)	68.8 (=141/205)	**85.3 (=29/34)**	62.0 (=57/92)	70.3 (=52/74)	60.0 (=3/5)
Charged	(8.4, 3.6, 4.0)	(8.2, 3.6, 4.2)	(8.2, 3.4, 3.7)	(8.7, 3.9, 4.3)	(8.7, 3.8, 1.3)
Not charged	(8.3, 3.5, 3.3)	(7.9, 3.6, 2.4)	(8.2, 3.5, 3.2)	(8.3, 3.6, 3.4)	(**9.4, 3.9, 5.0**)
a. Male defendants	69.6 (=133/191)	**84.8 (=28/33)**	60.9 (=53/87)	73.1 (=49/67)	75.0 (=3/4)
	(8.4, 3.6, 4.0)	(8.3, 3.6, 4.2)	(8.1, 3.3, 3.8)	(**8.8, 3.9, 4.3**)	(8.7, 3.8, 1.3)
	(8.2, 3.5, 3.4)	(7.9, 3.6, 2.4)	(8.2, 3.5, 3.3)	(**8.3**, 3.6, 3.6)	(8.0, **3.8**, **6.0**)
b. Female defendants	57.1 (=8/14)	**100 (=1/1)**	80.0 (=4/5)	42.9 (=3/7)	0 (=0/1)
	(8.3, 3.8, 2.8)	(7.1, 3.5, **4.0**)	(**9.0, 4.0,** 1.8)	(7.9, 3.5, 3.7)	(no cases)
	(8.8, 3.7, 2.2)	(no cases)	(8.6, 3.8, 0)	(8.4, 3.5, 2.3)	(**10.7, 4.1, 4.0**)
c. Waterbury	75.0 (=9/12)	**100 (=2/2)**	60.0 (=3/5)	75.0 (=3/4)	100 (=1/1)
	(8.9, 4.0, 3.2)	(8.4, **4.3**, 4.0)	(8.5, 3.8, 2.0)	(9.2, 4.0, **4.3**)	(**9.7**, 4.2, 2.0)
	(10.3, 4.3, 2.7)	(no cases)	(**11.0, 4.4, 3.5**)	(9, 3.9, 1)	(no cases)
d. Non-Waterbury	68.4 (=132/193)	**84.4 (=27/32)**	62.1 (=54/87)	70.0 (=49/70)	50.0 (=2/4)
	(8.4, 3.6, 4.0)	(8.2, 3.6, 4.2)	(8.1, 3.3, 3.8)	(**8.7, 3.9, 4.3**)	(8.2, 3.5, 1.0)
	(8.2, 3.5, 3.3)	(7.9, 3.6, 2.4)	(8.0, 3.4, 3.2)	(8.3, 3.6, 3.5)	(**9.4, 3.9, 5.0**)
2. Rate of death sentencing (sustained) (% and ratio)	4.4 (=9/205)	**11.8 (=4/34)**	2.2 (=2/92)	4.1 (=3/74)	0 (=0/5)
Sustained death sentence	(9.0, 4.2, 4.9)	(8.2, 4.1, 3.8)	(9.1, 4.2, 5.0)	(**10.1, 4.3, 6.3**)	(no cases)
No sustained death sentence	(8.3, 3.6, 3.7)	(8.2, 3.6, **4.0**)	(8.2, 3.4, 3.5)	(8.5, 3.8, 3.9)	(**9.0**, **3.8**, 2.8)
a. Male defendants	4.7 (=9/191)	**12.1 (=4/33)**	2.3 (=2/87)	4.5 (=3/67)	0 (=0/4)
	(9.0, 4.2, 4.9)	(8.2, 4.1, 3.8)	(9.1, 4.2, 5.0)	(**10.1, 4.3, 6.3**)	(no cases)
	(8.3, 3.5, 3.8)	(8.2, 3.6, 4.0)	(8.1, 3.4, 3.6)	(**8.6, 3.8, 4.0**)	(8.5, 3.8, 2.5)
b. Female defendants	0 (=0/14)	**0 (=0/1)**	0 (=0/5)	0 (=0/7)	**0 (=0/1)**
	(no cases)	(no cases)	(no cases)	(no cases)	(no cases)
	(8.6, 3.7, 2.5)	(7.1, 3.5, **4.0**)	(8.9, 4.0, 1.4)	(8.2, 3.5, 2.9)	(**10.7, 4.1, 4.0**)
c. Waterbury	33.3 (=4/12)	**100 (=2/2)**	0 (=0/5)	50.0 (=2/4)	0 (=0/1)
	(9.0, 4.2, 5.0)	(8.4, **4.3**, 4.0)	(no cases)	(**9.5**, 4.1, **6.0**)	(no cases)
	(9.3, 4.0, 2.1)	(no cases)	(9.5, 4.0, **2.6**)	(8.8, 3.9, 1.0)	(**9.7**, **4.2**, 2.0)
d. Non-Waterbury	2.6 (=5/193)	**6.3 (=2/32)**	2.3 (=2/87)	1.4 (=1/70)	0 (=0/4)
	(9.1, 4.2, 4.8)	(8.0, 3.9, 3.5)	(9.1, 4.2, 5.0)	(**11.2, 4.8, 7.0**)	(no cases)
	(8.3, 3.5, 3.8)	(8.2, 3.6, 4.0)	(8.1, 3.3, 3.5)	(8.5, **3.7, 4.0**)	(**8.8**, 3.7, 3.0)
Column totals for most "egregious/aggravated"	0	5	6	**28**	22

NOTES: The first row of the table shows a total of 205 death-eligible cases, broken down into four categories based on the minority/white status of the defendant and victim. The next row shows three "deathworthiness" numbers in parentheses: the means of the 4–12 and 1–5 Egregiousness scores and the count of special aggravating factors for murders in each racial category and overall. Subsequent lines in the top panel show numbers and percent of cases charged with a capital felony and (in the bottom panel) sentenced to death. The two sets of parenthetical numbers below each percent represent the three deathworthiness numbers for those charged or sentenced (the top line) and for those not so charged or sentenced (the second line). For example, in Row 1 and Column 2, 85.3 percent of the 34 minority on white murders were capitally charged. The average 4–12 Egregiousness score for *all* 34 minority on white crimes is given in the row above (8.2), which is also the Egregiousness score for the 29 such cases charged with capital felony (the five not so charged had an average 4–12 Egregiousness score of 7.9.) Note that 85.3 percent is bolded, which identifies the highest rate of charging or sentencing for any given row. In every case, the harshest treatment is accorded to minority on white murders. The bolded individual numbers show the highest levels in each row for the three deathworthiness measures. Minority defendant cases are *not* the most egregious (as seen in the last row of the table): while 28 of the bolded numbers come in the white on white murder category of Column 4, only five come in Column 2.

white victims are over five times as likely to receive a death sentence as minority defendants who commit capital-eligible murder of minority victims (11.8 percent vs. 2.2 percent). Minority defendants who murder white victims are almost three times as likely to receive a death sentence as white defendants who murder white victims (11.8 percent vs. 4.1 percent).

B. Minority on White Crimes Have the Highest Capital Charging Rates

Similarly, if one looks at rates of capital charging, minorities who kill whites are treated more harshly than other racial configurations of the defendant and victim. Indeed, the bolded numbers in Table 2 show which of the four racial categories is treated most harshly and in every case for both capital charging and capital sentencing, we see it is minorities who kill whites (Column 2). Specifically, 85.3 percent of minority on white crimes were capitally charged, while death-eligible murders of minorities were charged at close to 60 percent. If these percentages referred to basketball free-throw shooting, the 85.3 percent figure would be at the level of one of the great free-throw shooters of all time and 60 percent would reflect a horribly low rate.[26] In other words, this is a massive difference in the average capital charging rates of the different racial categories.

C. Minority on White Crimes Have Lower Race-Blind Egregiousness Scores

Table 2 shows three measures of "deathworthiness" (our two coded egregiousness scores and the sum of the special aggravating factors distilled from the DCIs). One possible explanation for the harsher treatment of minority on white crimes does not seem to comport with the summary data in that these crimes tend on average to be somewhat *less* aggravated than those of other racial configurations. For example, looking across the top row of the table, we see for the 34 minority on white crimes, the average Composite Egregiousness score was 8.2, the average Overall Egregiousness score was 3.6, and the number of special aggravating factors listed in the DCIs was 3.9. If we compare these measures to the similar values for the 74 white on white crimes of 8.6, 3.8, and 4.0, we see that on average the minority on white crimes were *less* aggravated across all three measures.

Table 2 provides the average deathworthiness measures for each category based on whether the case was charged with a capital felony (or sentenced to death, for Panel 2). For example, the two lines beneath Row 1 show two sets of parenthetic numbers: the first number (the top line just below Row 1) shows the average egregiousness of those who *are* capitally charged and the second number (just below the first) shows the average egregiousness of those *not* capitally charged. Thus, we see that the murders involving 29 minority defendants killing white victims that *were* charged as capital felonies had a *lower* average egregiousness value across all three measures (8.2, 3.6, 4.2) than the 52 white

---

[26]Chris Paul is the 37th best career free-throw shooter in NBA history, shooting at a rate of 85.7 percent <http://www.basketball-reference.com/leaders/ft_pct_career.html?mobile=false>. Conversely, this past season, the Michigan State basketball team was considered to be in desperate shape when shooting "a dismal 60.3 percent from the free throw line." Gillian Van Stratt, Michigan State by the Numbers: Tom Izzo Takes Aim at Free-Throw Shooting Woes <http://www.mlive.com/spartans/index.ssf/2014/02/michigan_state_by_the_numbers_9.html>,February 6, 2014.

defendants killing white victims who *were* charged with capital felonies (**8.7**, **3.9**, **4.3**) as well as the two white defendant, minority victim cases that *were not capitally charged* (9.4, 3.9, 5.0). The bolded trio of numbers in the preceding sentence shows that the 52 capitally charged white on white murders have the highest egregiousness values for capitally charged cases across all four racial groups. Indeed, the final row at the bottom of the table underscores that white on white murders most often scored the highest egregiousness values across the various racial groups and subcategories.[27]

D. The Capital Sentencing Rate in Waterbury is More than an Order of Magnitude Higher than in the Rest of the State

Table 2 also shows a striking disparity in the death-sentencing rate for the 12 death-eligible cases in Waterbury versus the 193 cases outside of Waterbury. As Column 1 shows, 33 percent of the death-eligible cases received sustained death sentences in Waterbury (two other Waterbury death sentences were overturned on appeal), while only 2.6 percent of the cases outside Waterbury received sustained death sentences (and one other death sentence was overturned on appeal). This discrepancy would be even greater if one looked at the 12 cases that received death sentences instead of just the nine sustained death sentences. Using all 12 cases, the Waterbury sentencing rate jumps to 50 percent (6 of 12), and the non-Waterbury rate rises to 3.1 percent (6 of 193).

III. Regression Analysis of Racial Disparities in Connecticut Capital Outcomes

Tables 1 and 2 summarize the basic data that were available to conduct a multivariate regression analysis. While one could be interested in many different aspects of Connecticut's death penalty regime, practical and theoretical reasons led me to focus my regression analysis on two critical outcome variables: (1) the initial decision of the prosecutor to charge a homicide as a capital felony, and (2) the final outcome of who ends up on death row after the culmination of the legal process that places a defendant on death row and ultimately confirms that sentence of death.[28] In other words, I will focus on the very first stage of Connecticut's capital regime and the bottom line of who is under sentence of death at the end of the full legal process in a case.

---

[27]This final row adds up the number of bolded egregiousness measures for each of the four racial categories and reveals that the white on white crimes are more egregious on average than the other three crime categories. White on white crimes are most egregious across the four racial categories 28 times. The comparable number for minority on white crimes is only five, which is the lowest for the four groups.

[28]Looking at the first stage allows us to explore whether racial disparities and other problematic, arbitrary influences emerge purely from the decisions of state prosecutors. Looking at the bottom line allows us to examine whether any such racial or arbitrary influences are eliminated through the operation of the entire capital punishment regime. While it might be interesting to look at narrower categories of decisions, the limited number of cases often precludes this approach with a regression analysis. For example, it might be interesting to further explore which of the 28 cases

A. Capital Charging

1. My Basic Regression Model

The obvious starting point in a regression analysis of the Connecticut death penalty regime is the initial capital charging decision. Recall that all 205 cases in this study were deemed to be death-eligible in that the prosecutor could have sought the death penalty for all of them. The necessary first step toward a penalty of death is that the defendant is charged with a capital felony. As Table 2 indicated (Row 1, Column 1), 68.8 percent of the 205 cases were charged as capital felonies. In many respects, this charging decision will be the purest illustration of the state's conduct because the judgment is entirely within the discretion of the individual State's Attorneys in the 13 judicial districts within the state, and the capital charge is overwhelmingly made in Connecticut before a lawyer has been secured by the defendant. Unlike sentencing, this decision is not impacted by the strengths or weaknesses of the defense counsel nor by the behavior of possibly idiosyncratic juries. In addition, while there were only 12 death sentences handed down in Connecticut over our sample period and only nine were sustained, the larger number of capital felony charges (141 out of 205 cases) provides a relatively richer amount of data to estimate a full regression model. Consequently, the capital charging regression is likely to provide the most reliable and informative estimates of the factors influencing capital outcomes in Connecticut.

Table 3 shows the base regression model of capital felony charging, displaying results from both logit and OLS regressions.[29] This regression is designed to test whether the harsher charging of minority on white crimes that we saw in Table 2 persists when controlling for the type of murder and location within or outside Waterbury as well as the egregiousness (using two separate measures) and the number of special aggravating factors in a case. The Table 3 regression once again shows that minority killers of whites are treated most harshly, experiencing a charging rate that is roughly 25–28 percentage points higher than minority defendants who kill minority victims.[30] This finding of racial disparity in capital charging is highly statistically significant—far above the 1 percent significance level—and even larger than the gaping raw disparities observed in Table 2.

---

that went to a death penalty sentencing hearing after a conviction for a capital felony received a death sentence (12 defendants) or ultimately ended up on death row after the completion of the full legal process (nine defendants). Unfortunately, with only 28 cases, no sensible regression of this question can be conducted using the standard 13 explanatory variables in Table 3.

[29]For each logit model, I show both the actual logit estimate as well as the "marginal effect," which is estimated using the mean values of all of the other explanatory variables included in the regression. Since most of these explanatory variables are indicator variables, their evaluation at mean values does not reflect actual charging rates for any class of cases, but the logit "marginal effect" simply provides a convenient summary measure.

[30]Columns 1–3 of Table 3 use the Composite 4–12 Egregiousness measure, while Columns 4–6 employ the Overall 1–5 Egregiousness score.

Table 3: Explaining Capital Charging in 205 Connecticut Death-Eligible Cases, 1973–2007

Dependent Variable = Capital Charges|Death Eligible

	1	*2*	*3*	*4*	*5*	*6*
Explanatory Variables	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*
Defendant white/victim white	0.810*	0.152	0.135*	0.697*	0.133	0.118
	(0.418)		(0.074)	(0.406)		(0.074)
Defendant minority/victim white	1.709**	0.250	0.276**	1.698**	0.251	0.277**
	(0.592)		(0.084)	(0.612)		(0.087)
Defendant white/victim minority	0.007	0.001	–0.004	–0.112	–0.023	–0.025
	(0.891)		(0.203)	(1.009)		(0.218)
Composite egregiousness	–0.388*	–0.077	–0.063			
	(0.230)		(0.038)			
Overall egregiousness				–0.252	–0.050	–0.043
				(0.368)		(0.065)
Special aggravating factors	0.258**	0.051	0.043**	0.220**	0.044	0.038**
	(0.108)		(0.018)	(0.107)		(0.018)
Waterbury	0.239	0.045	0.049	0.067	0.013	0.025
	(0.697)		(0.125)	(0.768)		(0.136)
Pre-1998 cases	1.010**	0.196	0.180**	0.913**	0.179	0.171**
	(0.364)		(0.067)	(0.345)		(0.067)
Murder for hire	0.816	0.136	0.185	0.972	0.157	0.208
	(0.739)		(0.132)	(0.746)		(0.134)
Kidnapped	–0.495	–0.102	–0.106	–0.556	–0.116	–0.116
	(0.482)		(0.085)	(0.471)		(0.085)
Sexual assault	0.384	0.071	0.083	0.265	0.050	0.066
	(0.724)		(0.120)	(0.717)		(0.120)
Multiple victims	1.148**	0.211	0.200**	0.849*	0.161	0.153*
	(0.522)		(0.085)	(0.464)		(0.079)
Under 16	1.534**	0.243	0.282**	1.240**	0.208	0.236**
	(0.619)		(0.108)	(0.587)		(0.105)
Constant	1.456		0.738**	–0.457		0.430**
	(1.619)		(0.276)	(1.138)		(0.207)
R^2 or pseudo R^2	0.159	0.159	0.182	0.148	0.148	0.171
N	205	205	205	205	205	205

NOTES: Robust standard errors in parentheses, ** = $p < 0.05$, * = $p < 0.10$. The omitted category from the race of defendant and victim variables is defendant minority/victim minority. Columns 1 to 3 are identical to Columns 4 to 6 in all but one respect—Columns 1 to 3 use the Composite Egregiousness measure (4–12), and Columns 4 to 6 use the Overall Egregiousness measure (1–5). As one can see, the basic findings of the table are unaffected by the choice of egregiousness scale.

2. Robustness Checks of the Basic Regression Model

The state's expert raised a number of challenges to my regression results showing harsher treatment of minority defendants who kill white victims.[31] Table 4 responds to an array of these challenges and shows that the finding of racial disparity in the base model of Table 3 is extremely robust. First, the state's expert stated that some of the cases should be dropped from the analysis, either because the defendant was acquitted of a capital felony (although convicted of some criminal homicide) or because a judge found there was no probable cause to indict on that charge. Row A of Table 4 shows the coefficients on the minority on white identifier from Table 3. Row B shows that dropping these 16 "acquittal" cases has no impact on this estimated racial coefficient. Similarly, in response to the claim that nine of the 205 cases were not truly death-eligible, I dropped those cases and again found virtually identical results (Row C).

Second, as we move down Table 4 from Row D to Row U, each row represents another depiction of the estimated higher charging experienced by minority defendants who kill white victims versus minorities who kill minorities. One can see in each case, regardless of whether one uses the Composite Egregiousness score (Columns 1–3) or the Overall Egregiousness score (Columns 4–6), the estimated harsher treatment of minority on white murders is large and highly statistically significant. Table 4 confirms that the base model captures the racial effect in capital charging well, and is extremely robust to the identified changes.

To highlight what those various changes are, note that Row D of Table 4 responds to the criticism that crimes involving multiple victims are reflected in three variables: the Composite Egregiousness measure (the fourth component of which counted the number of victims, capped at 3), the count of special aggravating factors ("multiple victims" is one of the items on the list in the DCI), and the explanatory variable that identifies the capital felony enabling factor of multiple victims. While there is no reason to think this configuration would bias the estimate on the racial variables, Row D eliminates the duplication by limiting the Composite Egregiousness measure to the other three components (thus dropping the fourth "number of victims" component) and removing the "multiple victim" element from the list of special aggravating factors counted in that explanatory variable. As expected, this had no impact on the estimated racial disparity in sentencing.

To show that my results were not sensitive to whether the egregiousness measures were entered as a single numeric score or as a series of dummies, Row E of Table 4 presents the latter specification.[32] Rows F and G show that the results are virtually identical regardless

---

[31]The state's expert was Stephan Michelson, a litigation consulting economist from North Carolina.

[32]Using the continuous egregiousness measure of the base model constrains the impact of egregiousness on capital charging (or sentencing) to rise linearly as the measure increases. Conceivably, though, the effect of rising egregiousness on capital outcomes could be nonlinear: there might be no increase in the likelihood of charging at first, and then perhaps a big jump in likelihood when the egregiousness level hit a certain high threshold. Using dummies (derived from the median egregiousness score) allows the regression to determine whether the impact on egregiousness is not linear, but as Table 4 shows, the issue is of no consequence to the estimated racial disparity in capital charging.

Table 4: Robustness Checks—Minority on White Crimes are Charged at Higher Rates

		1	*2*	*3*	*4*	*5*	*6*
		Logit	*Logit Marginal Effects*	*Linear Prob. Model*	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*
A	Table 3	1.709**	0.250	0.276**	1.698**	0.251	0.277**
		($p = 0.004$)		($p = 0.001$)	($p = 0.005$)		($p = 0.002$)
B	Dropping 16 cases of acquittals of capital felony or no probable cause[a]	1.702**	0.264	0.273**	1.733**	0.270	0.280**
		($p = 0.006$)		($p = 0.003$)	($p = 0.008$)		($p = 0.003$)
C	Dropping 9 cases the state's expert deemed not to be death-eligible	1.650**	0.242	0.265**	1.642**	0.244	0.267**
		($p = 0.006$)		($p = 0.002$)	($p = 0.008$)		($p = 0.003$)
D	Removing duplicative indicators of multiple victims	1.721**	0.251	0.279**	1.698**	0.251	0.277**
		($p = 0.004$)		($p = 0.001$)	($p = 0.005$)		($p = 0.002$)
E	Using dummy variables for egregiousness	1.837**	0.258	0.307**	1.781**	0.250	0.271**
		($p = 0.001$)		($p = 0.000$)	($p = 0.005$)		($p = 0.002$)
F	Using egregiousness values from 11 U. Conn. coders only	1.680**	0.247	0.270**	1.717**	0.252	0.277**
		($p = 0.004$)		($p = 0.002$)	($p = 0.004$)		($p = 0.001$)
G	Using egregiousness values from 7 Yale coders only	1.736**	0.253	0.284**	1.624**	0.243	0.268**
		($p = 0.003$)		($p = 0.001$)	($p = 0.009$)		($p = 0.003$)
H	Adding control for AWFUL along with egregiousness factors	1.768**	0.253	0.281**	1.781**	0.257	0.287**
		($p = 0.003$)		($p = 0.001$)	($p = 0.004$)		($p = 0.001$)
I	Adding control for AWFUL and dropping egregiousness factors[b]	1.639**	0.244	0.268**	1.671**	0.249	0.271**
		($p = 0.006$)		($p = 0.002$)	($p = 0.006$)		($p = 0.002$)
J	Dropping egregiousness factors[b]	1.625**	0.243	0.266**	1.667**	0.251	0.269**
		($p = 0.007$)		($p = 0.002$)	($p = 0.007$)		($p = 0.002$)
K	Adding controls for prior prison sentence imposed and stranger murders	1.838**	0.259	0.285**	1.859**	0.265	0.294**
		($p = 0.006$)		($p = 0.004$)	($p = 0.007$)		($p = 0.003$)
L	Adding controls for strength of evidence	1.946**	0.249	0.239**	1.956**	0.254	0.247**
		($p = 0.004$)		($p = 0.006$)	($p = 0.005$)		($p = 0.006$)
M	Adding controls for prior prison sentence imposed, stranger murders, and strength of evidence[c]	2.102**	0.260	0.259**	2.146**	0.270	0.274**
		($p = 0.003$)		($p = 0.008$)	($p = 0.004$)		($p = 0.006$)
N	Adding control for gender of defendant	1.728**	0.251	0.278**	1.718**	0.252	0.278**
		($p = 0.004$)		($p = 0.001$)	($p = 0.006$)		($p = 0.002$)
O	Adding control for any female victim	1.729**	0.251	0.277**	1.706**	0.251	0.274**
		($p = 0.003$)		($p = 0.001$)	($p = 0.005$)		($p = 0.002$)
P	Adding control for guilty pleas (Michelson's DANYPLEA)	1.752**	0.253	0.275**	1.725**	0.253	0.275**
		($p = 0.004$)		($p = 0.001$)	($p = 0.006$)		($p = 0.002$)
Q	Adding control for public defender (Michelson's DATTYPD)	1.669**	0.240	0.260**	1.678**	0.242	0.264**
		($p = 0.005$)		($p = 0.002$)	($p = 0.005$)		($p = 0.002$)
R	Adding controls for guilty pleas and public defender (DANYPLEA + DATTYPD)	1.681**	0.241	0.260**	1.681**	0.243	0.263**
		($p = 0.005$)		($p = 0.002$)	($p = 0.005$)		($p = 0.002$)
S	Comprehensive: Drops 9 cases per Michelson suggestion, removes duplicate multiple-victim indicators and uses dummies for egregiousness measures, includes all additional controls (prior prison sentence imposed, stranger murders, strength of evidence, gender of defendant, any female victim)[c]	2.616**	0.279	0.317**	2.225**	0.268	0.262**
		($p = 0.001$)		($p = 0.002$)	($p = 0.004$)		($p = 0.009$)
T	Comprehensive with three additional judicial district controls (New Haven, New Britain, and Danbury) [3]	2.491**	0.242	0.251**	2.186**	0.240	0.214**
		($p = 0.003$)		($p = 0.014$)	($p = 0.001$)		($p = 0.022$)
U	Comprehensive with all additional judicial district controls[c]	2.374**	0.202	0.219**	1.991**	0.191	0.185*
		($p = 0.014$)		($p = 0.035$)	($p = 0.018$)		($p = 0.060$)

[a]Cases dropped according to the state's expert's variable DACQUITPLUS. This reduces the initial universe by 16 cases—from 205 to 189—due to 13 cases in which the defendant was acquitted and three cases in which no probable cause was found.

[b]The Row I and Row J specifications drop the 4–12 and 1–5 egregiousness measures entirely. For these rows, Columns 1 to 3 include the count of SPECIAL AGGRAVATING FACTORS variable, and Columns 4 to 6 drop it.

[c]Specifications that include prior prison sentences reduce the initial universe by 15 cases that are missing data on this variable.

NOTES: ** = $p < 0.05$, * = $p < 0.10$. The first row of this table shows the estimated effect on charging (the coefficient and p value) for cases in which a minority kills a white, as shown in Table 3. Subsequent rows change various aspects of the regression model or data, as indicated. Except where otherwise noted, Columns 1 to 3 are identical to Columns 4 to 6 in all but one respect—Columns 1 to 3 use the Composite Egregiousness measure (4–12) in some form, and Columns 4 to 6 use the Overall Egregiousness measure (1–5) in some form.

of whether one uses the egregiousness measures of the Yale or University of Connecticut Law School coders (or combined them as we did in Row A).[33]

Rows H, I, and J of Table 4 show that if we use the independent egregiousness coding offered by the state's expert (which he labeled AWFUL) in addition to or instead of my egregiousness measures, or completely eliminated both my egregiousness measures and the count of the special aggravating factors, virtually identical results were reached.[34] Although my egregiousness measures were continuous values and the state's expert's AWFUL variable was simply an indicator variable (reflecting his view of the 35 worst of the 205 cases), a regression of AWFUL on my egregiousness measures shows enormously high significance levels: the *t* statistics were 5.09 for Composite Egregiousness, 6.90 for Overall Egregiousness, and 4.19 for the count of special aggravating factors.

Rows K–P and Row T of Table 4 provide an additional array of proposed changes that are all incorporated in the final Row U regression. Looking at Row U (the comprehensive model of Row S plus controls for all judicial districts), we see that the base model of Table 3 is augmented to include the following variables and changes:

1. Dropping the nine cases that the state's expert argued were not death-eligible;
2. Removing the duplicative multiple-victim indicator from the Composite Egregiousness measure and the count of special aggravating factors;
3. Adding controls for whether the defendant had a prior prison sentence or was a stranger to the victim;
4. Adding four controls for the strength of the evidence inculpating the defendant;[35]
5. Controlling for whether the defendant was a female and whether the victim was a female;

---

[33]Cronbach's α is a measure of how reliable the coding was across the coders. The values of α of 0.962 for Composite Egregiousness and 0.932 for Overall Egregiousness demonstrate a high degree of consistency across coders, and are highly desirable since they are very close to the gold standard of 0.95. See J.C. Nunally & I.H. Bernstein, Psychometric Theory 264 (3d ed. 1994). While the state's expert introduced a table at trial purporting to show that the Yale and University of Connecticut students had differed in their evaluation of the egregiousness of the crimes, this finding was the product of an Excel spreadsheet error he made. When his error was pointed out, the state's expert conceded that there was virtually no difference in the egregiousness coding across the two teams.

[34]While the state's expert argued that the summaries that my 18 coders viewed might not contain enough information about the cases to provide an adequate basis to assess the egregiousness of the 205 crimes, he testified that in generating his own egregiousness measure—AWFUL—he not only relied on the summaries but also read the relevant judicial decisions in the case and augmented his understanding of the crimes by discussing the cases with the prosecutors when needed. Nonetheless, not only did the introduction of the AWFUL variable fail to reduce the estimated racial effect in charging but it also was found by the state's expert to be unrelated to either capital charging or capital sentencing in Connecticut. This is particularly telling since the state's expert's AWFUL variable is potentially problematic in that he was evaluating how awful the crime was while cognizant of not only the disposition but also the racial, gender, and geographic details of each case.

[35]The four controls for strength of evidence come from the DCIs: they reflect whether (1) in a statement made to the authorities, the defendant confessed to at least some role in the offense (121 cases), (2) the defendant made self-incriminating statements to a third party (other than police or co-defendant) (88 cases), (3) there was more than circumstantial evidence of guilt (180 cases), and (4) the defendant offered no defense to the charges (67 cases).

6. Using dummy variables for the egregiousness measures (instead of the single numeric value for each score);
7. Controlling for all judicial districts (in addition to Waterbury).[36]

As Table 4 illustrates, none of these changes influenced the regression finding that minority on white crimes were treated much more harshly than minority on minority crimes.[37]

Note that some have argued that what appears to be racial discrimination in capital charging or sentencing is really only a reflection of the fact that inner-city prosecutors tend to use the death penalty more sparingly than suburban prosecutors and this explains the overall racial patterns in capital outcomes. Indeed, Kent Scheidegger makes this very claim with respect to Connecticut's death penalty system, stating—without support—that there is

> no reason to doubt that the situation in Connecticut is consistent with the overall national picture, *i.e.*, that claimed racial disparities would shrink to insignificance if legitimate factors, *including jurisdiction*, could properly be taken into account.[38]

Without commenting on what is true for the nation as a whole, I can state confidently that Scheidegger's claim is decidedly not the case in Connecticut as shown by the fact that the disparities in capital charging that are identified in my regressions (Table 4) as well as those of the state's expert (Table 5) remain substantial and statistically significant when extensive controls for judicial district (and other legitimate factors) are added.[39] In other words, the evidence strongly supports the conclusion that, in making their charging decisions, Connecticut prosecutors were influenced by the race of the defendant and victim in a way that led to minority on white crimes being treated substantially more harshly than minority on minority crimes.

---

[36]The Row U regression controlled for a total of 10 of the 12 districts for which we had death-eligible cases (there were no cases in our sample from the Tolland judicial district). The two districts in the omitted category were Ansonia-Milford (which did not have a capital charge in any of its four cases) and Stamford-Norwalk.

[37]The state's expert also argued that one should control for guilty pleas and whether the defendant was represented by a public defender. I show in Rows Q–S that these changes would not influence the results, but I did not include them in the final row of the table since these are not valid pretreatment variables. For example, a public defender is only assigned *after* the charges have been filed, so it made no sense to include that as an explanatory variable explaining who is capitally charged. Similarly, the decision to allow a guilty plea is a factor reflecting a subsequent judgment by a prosecutor but is not a proper factor explaining a prior capital charging decision. My explanatory variables were carefully chosen to capture attributes of the crime and the defendant, not the subsequent treatment of the defendant by the Connecticut death penalty system (which is more properly a dependent variable rather than a control).

[38]Kent S. Scheidegger, Mend It, Don't End It: A Report to the Connecticut General Assembly on Capital Punishment 22 (April 2011).

[39]The final row (U) of Table 4 controls for all the judicial districts in Connecticut and still shows a large and statistically significant racial disparity in capital charging. If (in addition to Waterbury) one controls for the three districts that the state's expert argued should be controlled for (as reflected in his trial testimony and Table 5), the racial disparity would grow to 21.4–25.1 percentage points more likely to be charged with a capital felony in the OLS regressions (Row T in Table 4). The marginal effects in the logit regressions range from 0.240 to 0.242. All these estimates are significant at at least the 0.05 level.

Table 5: The State's Expert's Final Trial Regression Explaining Capital Charging, Corrected for Error in Coding Multiple Victims and Restoring the Identifier for Black on White Murders

Dependent Variable = Capital Charges|Death Eligible

Explanatory Variables	*Coefficient*	*Robust Standard Error*	T	P *Value*
Hispanic/minority	0.073	0.080	0.920	0.358
Hispanic/white	0.036	0.102	0.360	0.722
Def white	0.132*	0.073	1.800	0.073
Black/white	0.189**	0.089	2.130	0.034
Vicracemix	0.148	0.128	1.150	0.250
Female def	–0.167	0.121	–1.390	0.168
1st victim female	–0.069	0.070	–0.990	0.323
Child victim	0.354**	0.080	4.420	0.000
dpriorkill	0.465**	0.131	3.550	0.000
Police victim	0.380**	0.093	4.090	0.000
drugdeath	0.392**	0.127	3.090	0.002
Multiple victims	0.180**	0.060	2.990	0.003
priorconvict	–0.015**	0.004	–4.240	0.000
dnoremorse	–0.142**	0.053	–2.700	0.008
Def education low	0.123**	0.053	2.310	0.022
Execute	0.123**	0.062	1.980	0.049
Weapon	0.221**	0.078	2.840	0.005
dthrill	0.137	0.086	1.590	0.113
dgratify	0.314**	0.104	3.020	0.003
dmoney	0.172**	0.063	2.730	0.007
vichomepub	0.144*	0.075	1.920	0.056
dwitsaw	0.101*	0.053	1.900	0.058
dconfess2	0.159**	0.066	2.400	0.017
New Haven	–0.351**	0.080	–4.400	0.000
New Britain	–0.433**	0.135	–3.220	0.002
Danbury	–0.394**	0.145	–2.710	0.007
Public defender	0.162**	0.054	2.990	0.003
Constant	0.041	0.132	0.310	0.757
$N = 215$, $R^2 = 0.5074$				

NOTES: ** = $p < 0.05$, * = $p < 0.10$. The omitted race category is black defendants who kill minority victims. The regression shows that black defendants who kill white victims are charged at a substantially higher rate, which is highly statistically significant.

3. The Regression Model of the State's Expert

In an effort to rebut the claim of racial disparity in charging, the state's expert offered his own regression model of the capital charging decision. Although this model purported to eliminate the higher charging rates of black on white crimes, that ostensible finding was only the result of the expert's coding error, which I pointed out at trial. Once that error was corrected, the state's expert did not produce any regression that undermined the strong

racial effect in capital charging. Unless the data set is very large or the effect size is overwhelming, it is usually possible to re-jigger a model to obscure a true causal effect. Since the data set is not particularly large, the inability to eliminate the "minority defendant, white victim" effect underscores that the racial disparity in capital charging is overwhelming. The strong and statistically significant finding that minority on white crimes are capitally charged at a higher rate than minority on minority crimes could not be altered, and is an unambiguous finding, as I explain in the remainder of this section.

a. The state's expert's corrected regression shows racial disparity in capital charging. At trial, the state's expert presented an OLS regression model of capital charging that his expert report referred to as the "ultimate winner." This model failed to show the described racial disparity in capital charging; however, this ostensible nonfinding was solely attributable to an incorrect identifier of multiple-victim cases (after prior models used by the state's expert had correctly coded multiple-victim cases). Correcting this error restored the finding of racial disparity in charging: the corrected "ultimate winner" regression showed that blacks who killed whites were charged at a rate 19.3 percentage points higher than blacks who killed minority victims ($p = 0.031$).

b. The state's expert drops the black on white identifier. After acknowledging the coding error, the state's expert claimed that because the data had changed it was necessary to do a new analysis.[40] The expert testified that the resulting new regressions showed no evidence of racial disparity. This claim was (technically) true only because the new regressions dropped the crucial minority on white identifier. Without including an identifier for minority on white (or black on white) murders, the racial disparity in capital charging would not be observable.

c. Restoring the black on white identifier. Table 5 is the state's expert's final revised capital charging regression based on his preferred sample of 215 death-eligible cases with only a single change: I restored the black defendant, white victim dummy variable to directly reveal the higher capital charging rate for this group relative to cases in which blacks killed minorities. Note how powerful the racial effect on capital charging must be in that, after years of trying hundreds and perhaps thousands of explanatory variables, the

---

[40]The precise exchange at trial was:

> Q So what you're saying is that whatever variables you thought were appropriately considered by the court in responding to [Donohue's capital charging regression] as of September 1, you now think those variables should no longer be considered and a completely different analysis should be prepared?
>
> A Yes. The data changed, the analysis will change. (Trial Transcript, October 1, 2012).

The state's expert then dropped four variables from his ultimate winner regression and—in mid-trial—went on a search for new variables (creating for the first time a variable about whether a witness saw the defendant at or near the scene of the murder). He then brought into court a set of six new regressions that were supposed to show his evolving thinking after the error in his ultimate winner regression was revealed. While for each new regression he highlighted the changes he was making, as though they represented some new analysis, the only important change in his revised ultimate winner regressions was that he dropped the black defendant, white victim variable in all six of the new regression tables he presented at trial.

state's expert could not produce a regression that undermined the Table 5 conclusion that black on white crimes were charged at an 18.9 percentage point higher rate than black on minority crimes.

The key Table 5 race variable is the BLACK/WHITE variable, which identifies a black defendant has killed a white victim. Since the omitted category is for black defendants who kill minority victims, the coefficient on the BLACK/WHITE variable tells us how much higher the rate of capital charging is for blacks killing whites as opposed to blacks killing minority victims. The other race variables created by the state's expert that are included in this regression are HISPANIC/MINORITY, HISPANIC/WHITE, DEF WHITE, and VICRACEMIX (indicating, in cases where there were multiple victims, if there were victims of different races).

The Table 5 regression offered by the state's expert also includes explanatory variables regarding the defendant (FEMALE DEF, DPRIORKILL, PRIORCONVICT, DEF EDUCATION LOW, DNOREMORSE), the victim (1ST VICTIM FEMALE, CHILD VICTIM, MULTIPLE VICTIMS, POLICE VICTIM), the circumstances of the homicide (DRUGDEATH, EXECUTE, WEAPON, VICHOMEPUB), the motivations for the homicide (DTHRILL, DGRATIFY, DMONEY), the nature of the evidence and quality of the defense (DWITSAW, DCONFESS2, PUBLIC DEFENDER), and controlled for three judicial districts: New Haven, New Britain, and Danbury.[41]

As I explain in the following section, many of the choices by the state's expert concerning appropriate explanatory variables and his selection of 215 cases (instead of my 205) are dubious, and correcting these almost invariably increased the estimated racial disparity depicted in Table 5. The remarkable point is that even taking every aspect of his regression and data set as given, the powerful race disparity in capital charging seen in Tables 3 and 4 remains.

d. Dubious explanatory variables. The state's expert's final capital charging regression emerged at trial, but over the years, this "Figure D3" regression had gone through a large array of different specifications, with many puzzling additions and subtractions.[42] For example, the regression previously included murder for hire as an explanatory variable (as

---

[41]Descriptions of the nonrace explanatory variables are: FEMALE DEF—female defendant, 1ST VICTIM FEMALE—the first victim in the case's DCI was a female, CHILD VICTIM—any of the victims were children (under age 11), DPRIORKILL—defendant has previously been convicted of murder, POLICE VICTIM—the victim was a law officer, DRUGDEATH—the victim died from drugs sold by the defendant, MULTIPLE VICTIMS—indicates that there were multiple victims, PRIORCONVICT—a count of the defendant's prior convictions, DNOREMORSE—the defendant showed no remorse for the homicide, DEF EDUCATION LOW—the defendant did not graduate from high school, EXECUTE—execution-style homicide (subdued or passive victim), WEAPON—killed with a weapon, DTHRILL—killed to experience pleasure or gratification from killing, DGRATIFY—motivated by sexual gratification, DMONEY—motivated by financial gain, VICHOMEPUB—homicide occurred at victim's home or in a selected public location, DWITSAW—witness identified accused as person committing the act that resulted in a homicide or as person with weapon at or near the scene of the homicide either immediately before or immediately after the act, DCONFESS2—the defendant admitted homicide after delay, and PUBLIC DEFENDER—the defendant's attorney was from the public defender's office.

[42]The rationale for many of the variables described in footnote 41 is not clear. For example, why should the low education of the defendant be included in a regression testing whether legitimate factors explain racial disparities in capital charging? Why should the use of "a weapon" make a killing worse than strangulation or stomping someone to death? Connecticut law deems killing those under 16 as a basis for defining a capital felony, but why did the state's expert choose "under 11" as the cutoff for defining a child victim? Explanatory variables that are chosen without any

I uniformly did), but his "ultimate winner" regression dropped this variable.[43] The state's expert also created an odd variable that only captured whether the first victim in a multiple-victim killing (i.e., the first victim listed in the DCI data set) was a woman instead of the more sensible variable identifying any female victim.

Another odd variable choice that seemed designed to shrink the size of the race effect identified whether the murder occurred either at the victim's home or in selected public areas.[44] Restoring the murder for hire identifier and using the more sensible definition of a female victim and dropping this odd "killing occurred at home or in certain public places" variable increased the estimated racial disparity from 18.9 percentage points to 24.4 percentage points ($p = 0.008$).[45] This would leave a racial effect in capital charging that was quite similar to that shown for the minority on white variable in my Tables 3 and 4.

e. Might the state's expert's nonuniform coding of motive variables reveal how prosecutors discriminated based on race? Interestingly, one choice the state's expert made in creating a trio of explanatory variables exploring the motive of the defendant inadvertently may shed light on a mechanism that led to harsher treatment for minority on white crimes. In creating the "motive" variables DTHRILL, DGRATIFY, and DMONEY, the state's expert used different protocols to decide whether these factors were present in given cases. Specifically, DTHRILL and DMONEY were set to equal 1 if the DCI indicated that the evidence supporting the presence of this factor was either strong *or* "[t]he file contains some evidence supporting such an inference." In contrast, DGRATIFY was set equal to 1 only if the evidence in the file was strong.[46] When all three motive variables were defined according to this latter protocol requiring strong evidence, the estimated race variable jumped further to 26.2 percentage points ($p = 0.004$).[47] This estimated magnitude of the harsher treatment that black on white crimes received versus black on minority crimes is essentially identical to the estimated disparity (for minority on white vs. minority on minority crimes) that I found in my Table 3 base case OLS regression (Column 6)—27.7 percentage points ($p = 0.002$).

---

prior theoretical justification on the grounds that they lead to "statistically significant" estimates can generate highly misleading regression results.

[43]The state's expert claimed he let the data decide which variables to include based on their level of significance, but on this rationale he should not have dropped the highly significant murder for hire variable.

[44]No explanation was offered for why one would create a single variable identifying this unusual combination of murder locations. It captured 167 of the 215 cases used by the state's expert.

[45]If instead of dropping the DVICHOMEPUB variable entirely from this modified Table 5 regression, one retained an identifier for whether the victim was killed at home, the racial disparity would be 23.4 percentage points ($p = 0.011$).

[46]The precise definition that the evidence of the particular motive was strong was based on the DCI entry either that "[t]he file strongly supports such an inference" or "[t]he file provides a rational basis for a fact-finder to find beyond a reasonable doubt that the factor is present."

[47]This 26.2 percentage point disparity comes from a regression that restored the murder for hire variable and used the correct female victim variable as well as using the uniform protocol for the motive variables.

If the motive variables introduced by the state's expert (taken from the DCIs) are really capturing charging behavior of the prosecutor (as opposed to reflecting some ad hoc data mining by the state's expert), this finding tells us that prosecutors have a lower threshold for finding the presence of potentially aggravating elements of the crime when black defendants kill white victims than they do when black defendants kill minority victims. Essentially, if there is "some evidence" that the murder was committed for a thrill or for money, black on white crimes will be more likely to be charged with a capital felony, while the prosecutor would insist on a higher level of evidentiary support for these aggravating characteristics for other racially defined defendant-victim categories. In this way, the coding irregularity of the state's expert may have identified one mechanism by which discriminatory judgments by prosecutors led them to charge black defendants who kill whites more harshly than other similar crimes in which a black killed a minority.

B. Capital Sentencing

1. My Base Regression Model

Section III.A examined the first decision node in Connecticut's death penalty regime—whether or not the prosecutor decided to charge the defendant with a capital felony. The evidence of racial discrimination at this initial charging stage is unassailable in both my regressions as well as those provided by the state's expert in numerous reports issued over the years and (ultimately) at trial.

It is reasonable to ask whether this initial discrimination is purged by the subsequent stages of the capital process, including trial, penalty phases, and appeal, or whether the initial discrimination continues to infect the ultimate decision about who will be executed in Connecticut. To explore this question, I ran a bottom-line regression that started with the full set of 205 death-eligible cases and analyzed which of those received a sustained sentence of death.[48]

Estimating the factors explaining the 141 capital charges out of 205 death sentences is an easier task statistically than explaining the nine sustained death sentences. Because of the small number of death sentences, one must be particularly careful about after-the-fact attempts to troll through the data inserting hundreds or thousands of explanatory variables into successive regression models, which is the precise strategy that the state's expert testified that he used in developing his models. This approach can generate *apparent* signs of statistical significance that in fact are utterly meaningless regressors. Instead, in modeling capital outcomes, I adopted a more disciplined approach of specifying in advance variables for which there were strong theoretical reasons for inclusion, while showing the results of those models consistently throughout.

---

[48]As noted above, there are other steps about which one might like to know whether problematic racial disparities can be found, such as whether the 66 defendants convicted of a capital felony will be brought to a capital sentencing hearing or whether the 28 cases that do proceed to a capital sentencing hearing actually result in death sentences. The problem with trying to test for discrimination in these other settings is that they contain too few observations for meaningful statistical analysis with our base set of 13 explanatory variables.

Table 6 depicts essentially the same base regression model that was used in Table 3 to explore capital charging but now is used to examine death sentencing. The table displays results from both logit and OLS regressions and shows again that there are substantial and significant racial disparities in who ultimately faces a sentence of death in Connecticut. The model is identical to that of the capital charging regression of Table 3, with two exceptions: (1) the dependent variable in Table 6 is whether or not the case ended with a sustained death sentence (as opposed to being charged with a capital felony);[49] and (2) the omitted variable for the four race categories in Table 3 was minority on minority crimes, while in Table 6 it is all crimes with white defendants.[50]

Table 6 reveals that whether one looks at the models including the Composite Egregiousness measure (Columns 1–3) or the Overall Egregiousness measure (Columns 4–6), the logit and OLS estimates both reveal that, controlling for all the listed factors, minorities who kill whites are sentenced to death at a substantially higher rate than white defendants who commit similar crimes. The logit measure, which is preferable to OLS given the low probability of receiving a death sentence, is highly statistically significant.[51]

2. Robustness Checks of the Basic Regression Model

Table 7 displays the same series of robustness checks on the Table 6 sentencing results that were supplied for the capital charging regressions above (Table 4) with a few adjustments. Row C excludes the 22 cases that the state's expert said should be excluded from the

---

[49]While 12 defendants during the study period received a sentence of death, three of those sentences had been definitely eliminated by or in the wake of the appellate process (e.g., when a prosecutor chose not to seek the death penalty on retrial after an initial reversal of a sentence of death, as occurred in two cases). I considered these nine defendants to be the sustained death sentences. Just prior to trial, the death sentence of Eduardo Santiago was overturned by the Connecticut Supreme Court but the state is still trying to maintain his death sentence and has yet to remove him from Connecticut's death row. Until his status is finally resolved, I have considered his case to be one of the sustained death sentences.

[50]It is necessary to combine the white defendant cases into a single category if one wants to use the entire data set for the logit models since there are no sustained death sentences for white on minority cases (after the reversal of Robert Courchesne's death sentence). Logit would drop this perfectly predicted category of five cases if I continued to include a white on minority variable (as I had in Table 3).

[51]For a more complete explanation of why logit is superior to OLS for an unlikely event such as capital sentencing, see Donohue, Logit vs. OLS: A Matter of Life and Death (Working Paper, 2014). The distinguished quantitative methodologist and University Professor at Harvard Gary King argues that using a linear model to analyze binary dependent variables is "conceptually incorrect" and "can yield predicted probabilities greater than one or less than zero, heteroskedasticity, inefficient estimates, biased standard errors, and useless test statistics." Therefore, he concludes, the relationship must be modeled by a nonlinear model such as logit. King goes on to note though that under certain circumstances OLS and logit estimates will be very similar: "When the underlying probability for each observation remains within the 0.25 to 0.75 probability interval, the logit and LS models produce very similar predicted values. However, standard errors and test statistics have little meaning; although they have somewhat more meaning when probabilities are within the 0.25 to 0.75 interval." When probabilities are outside of this range, King submits, logit will significantly outperform OLS. Indeed, this explains why the coefficient estimates for capital charging (see Tables 3 and 4) are so comparable for logit and OLS, while the much rarer capital sentencing events yield different estimates for the two models—with OLS often dramatically understating the statistical significance of the race effect in capital sentencing. Gary King, How Not to Lie with Statistics: Avoiding Common Mistakes in Quantitative Political Science, American Journal of Political Science 666–87 (1986).

Table 6: Explaining Death Sentences in 205 Connecticut Death-Eligible Cases, 1973–2007

Dependent Variable = Death Sentences|Death Eligible

	1	*2*	*3*	*4*	*5*	*6*
Explanatory Variables	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*
Defendant minority/victim minority	0.166	0.001	0.006	0.171	0.001	0.013
	(1.247)		(0.027)	(1.432)		(0.030)
Defendant minority/victim white	2.374**	0.055	0.087	2.444**	0.039	0.087
	(0.992)		(0.054)	(1.033)		(0.054)
Composite egregiousness (4–12)	–0.080	–0.001	0.001			
	(0.319)		(0.013)			
Overall egregiousness (1–5)				1.787**	0.010	0.031
				(0.738)		(0.029)
Special aggravating factors	0.360**	0.003	0.007	0.289	0.002	0.003
	(0.180)		(0.008)	(0.196)		(0.009)
Waterbury	5.221**	0.543	0.331**	4.509**	0.286	0.318**
	(1.506)		(0.134)	(1.542)		(0.135)
Pre-1998 cases	–0.638	–0.006	0.004	–0.578	–0.003	0.002
	(1.217)		(0.030)	(1.394)		(0.030)
Murder for hire	4.028**	0.258	0.103	4.317**	0.231	0.107
	(1.717)		(0.074)	(1.862)		(0.072)
Kidnapped	1.036	0.011	0.047	0.661	0.004	0.042
	(1.081)		(0.047)	(1.105)		(0.047)
Sexual assault	2.151*	0.048	0.072	1.081	0.010	0.059
	(1.122)		(0.055)	(0.946)		(0.056)
Multiple victims	2.128*	0.029	0.048	1.435	0.011	0.049
	(1.239)		(0.051)	(1.228)		(0.055)
Under 16	0.299	0.003	0.017	–0.101	–0.001	0.002
	(1.891)		(0.050)	(1.953)		(0.050)
Constant	–7.675**		–0.085	–14.328**		–0.169*
	(3.282)		(0.111)	(3.353)		(0.101)
R^2 or pseudo R^2	0.373	0.373	0.19	0.405	0.405	0.195
N	205	205	205	205	205	205

NOTES: Robust standard errors in parentheses, ** = $p < 0.05$, * = $p < 0.10$. The omitted category from the race of defendant and victim variables is all white defendants. Columns 1 to 3 are identical to Columns 4 to 6 in all but one respect—Columns 1 to 3 use the Composite Egregiousness measure (4–12), and Columns 4 to 6 use the Overall Egregiousness measure (1–5). As one can see, the basic findings of the table are unaffected by the choice of egregiousness scale.

Table 7: Robustness Checks—Minority on White Crimes are Capitally Sentenced at Higher Rates

		1	2	3	4	5	6
		Logit	*Logit Marginal Effects*	*Linear Prob. Model*	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*
A	Table 6	2.374**	0.055	0.087	2.444**	0.039	0.087
		($p = 0.017$)		($p = 0.108$)	($p = 0.018$)		($p = 0.107$)
B	Dropping 16 cases of acquittals of capital felony or no probable cause[a]	2.389**	0.066	0.103*	2.367**	0.045	0.102*
		($p = 0.019$)		($p = 0.091$)	($p = 0.031$)		($p = 0.091$)
C	Dropping 22 cases as per state's expert's suggestion	2.285**	0.060	0.093	2.358**	0.044	0.092
		($p = 0.017$)		($p = 0.107$)	($p = 0.021$)		($p = 0.108$)
D	Removing duplicative indicators of multiple victims	2.386**	0.056	0.088	2.444**	0.039	0.087
		($p = 0.017$)		($p = 0.106$)	($p = 0.018$)		($p = 0.107$)
E	Using dummy variables for egregiousness	2.954*	0.085	0.098*	2.405**	0.001	0.087
		($p = 0.089$)		($p = 0.076$)	($p = 0.026$)		($p = 0.116$)
F	Using egregiousness values from 11 U Conn coders only	2.364**	0.053	0.087	2.388**	0.052	0.087
		($p = 0.017$)		($p = 0.110$)	($p = 0.020$)		($p = 0.108$)
G	Using egregiousness values from 7 Yale coders only	2.406**	0.057	0.088	2.741**	0.021	0.086
		($p = 0.016$)		($p = 0.105$)	($p = 0.004$)		($p = 0.108$)
H	Adding control for AWFUL along with egregiousness factors	3.910**	0.007	0.081	2.779*	0.039	0.085
		($p = 0.038$)		($p = 0.128$)	($p = 0.067$)		($p = 0.112$)
I	Adding control for AWFUL and removing 2 egregiousness factors[b]	2.798*	0.040	0.085	2.306*	0.035	0.084
		($p = 0.064$)		($p = 0.111$)	($p = 0.071$)		($p = 0.113$)
J	Dropping egregiousness factors[b]	2.389**	0.056	0.087	2.182**	0.061	0.086
		($p = 0.016$)		($p = 0.108$)	($p = 0.024$)		($p = 0.113$)
K	Adding controls for prior prison sentence imposed and stranger murders	3.255**	0.040	0.083	3.628**	0.023	0.086
		($p = 0.001$)		($p = 0.117$)	($p = 0.001$)		($p = 0.109$)
L	Adding controls for strength of evidence	3.093**	0.045	0.090	2.933**	0.033	0.089
		($p = 0.031$)		($p = 0.104$)	($p = 0.031$)		($p = 0.104$)
M	Adding controls for prior prison sentence imposed, stranger murders, and strength of evidence[c]	4.343**	0.039	0.084	4.316**	0.028	0.085
		($p = 0.023$)		($p = 0.121$)	($p = 0.008$)		($p = 0.114$)
N	Adding control for gender of defendant	2.206**	0.056	0.084	2.311**	0.041	0.084
		($p = 0.024$)		($p = 0.122$)	($p = 0.022$)		($p = 0.122$)
O	Adding control for any female victim	2.555**	0.058	0.087	2.727**	0.044	0.085
		($p = 0.016$)		($p = 0.111$)	($p = 0.027$)		($p = 0.116$)
P	Adding control for guilty pleas	2.389**	0.040	0.085	2.400**	0.028	0.084
		($p = 0.009$)		($p = 0.108$)	($p = 0.015$)		($p = 0.108$)
Q	Adding control for public defender	2.344**	0.051	0.085	2.380**	0.037	0.085
		($p = 0.018$)		($p = 0.121$)	($p = 0.023$)		($p = 0.119$)
R	Adding controls for guilty pleas and public defender	2.334**	0.036	0.081	2.322**	0.027	0.081
		($p = 0.011$)		($p = 0.126$)	($p = 0.019$)		($p = 0.126$)
S	Comprehensive: Drops 22 cases per Michelson suggestion, removes duplicate multiple victim indicators, includes all additional controls (prior prison sentence imposed, stranger murders, strength of evidence, gender of defendant, any female victim), uses dummies for Overall Egregiousness measure (does not converge using modified Composite dummies, so I use the 3–9 Composite Scale)[c]	4.865**	0.053	0.091	n/a	n/a	0.089
		($p = 0.000$)		($p = 0.127$)			($p = 0.142$)
T	Comprehensive plus two additional judicial districts (New Britain and Danbury)[c]	12.478**	0.025	0.093	n/a	n/a	0.090
		($p = 0.000$)		($p = 0.125$)			($p = 0.141$)
U	Comprehensive with all additional judicial district controls[c]	n/a	n/a	0.082	n/a	n/a	0.087
				($p = 0.185$)			($p = 0.171$)

[a]Cases dropped according to the state's expert's variable DACQUITPLUS. This reduces the initial universe by 16 cases—from 205 to 189—due to 13 cases in which the defendant was acquitted and three cases in which no probable cause was found.

[b]The Row I and Row J specifications drop the 4–12 and 1–5 egregiousness measures entirely. For these rows, Columns 1 to 3 include the count of SPECIAL AGGRAVATING FACTORS variable, and Columns 4 to 6 drop it.

[c]Specifications that include prior prison sentences reduce the initial universe by 15 cases that are missing data on this variable.

NOTES: ** = $p < 0.05$, * = $p < 0.10$. Columns 1 to 3 are identical to Columns 4 to 6 in all but one respect—Columns 1 to 3 use the Composite Egregiousness measure (4–12) in some form, and Columns 4 to 6 use the Overall Egregiousness measure (1–5) in some form. The first row of this table shows the estimated effect on capital sentencing (the coefficient and p value) for cases in which a minority kills a white, as shown in Table 6. Subsequent rows change various aspects of the regression model or data, as indicated.

sentencing regression (which was 13 cases in addition to the nine he argued should be dropped from the charging regression in Row C of Table 4).[52] As noted in the table, Row S does not use dummy variables for Columns 1–3 because this would prevent the logit regression from converging. Instead, I use the 3–9 version of the Composite Egregiousness measure (which drops the fourth component as superfluous). Row T controls for two additional districts that were chosen to retain as many observations as possible. Row U controls for the same set of districts that I used in Table 4 (see footnote 36).

Table 7 demonstrates that minority defendant/white victim crimes were sentenced to death at rates approximately 2 to 8 percentage points higher than white defendants committing similar crimes. As the overall death sentencing rate for white death-eligible defendants was 3.8 percent (3 of 79) (see Table 2), this implies death penalty sentencing rates for minority/white murders are roughly 50–200 percent higher than cases in which white defendants commit similar murders.

Note that with only nine sustained death sentences, the logit model is unable to generate estimates in four of the six most saturated models of Rows S–U of Table 7. Convergence in the logit estimate becomes more difficult as regressors are added and observations are dropped. For example, in Row T, the OLS regression uses 168 observations because I drop the 22 cases per the state's expert's suggestion and 15 cases are dropped because there is no information for the PRIOR PRISON SENTENCE variable. For the logit

---

[52]Appendix E of my expert report in this litigation discusses the reasons for including all the cases that were challenged by the state's expert. John J. Donohue, Capital Punishment in Connecticut, 1973–2007: A Comprehensive Evaluation from 4686 Murders to One Execution (September 2013), <http://works.bepress.com/john_donohue/87/>. My basic rationale was that if the facts of the crime and the defendant met the criteria of death-eligibility and the defendant was convicted of some intentional homicide, the case should be included in my sample regardless of what happened after the crime. Although Table 7 illustrates that nothing of substance turns on this issue, an example of a case that the state's expert complained that I incorrectly included was that of Abin Britton. Britton and two co-defendants were all tried separately for the 1988 murder of James Connor. All three defendants were charged with capital felony (kidnapped victim), and the two co-defendants were convicted of felony murder, while Britton was only convicted of manslaughter. Michelson agrees with my inclusion of the co-defendants but he argued Britton should be excluded because he was not convicted of capital felony. But the facts suggest that Britton was guilty of the same crime, and the prosecutor sought the death penalty for Britton because he was the one who killed Connor in a heinous fashion. After Britton sold the victim two small bags of crack cocaine, the three defendants pulled the victim out of his car and beat him. They then transported the victim in his car to a nearby parking lot and beat him to death. State v. Britton, 283 Conn. 598, 601–02 (2007). The co-defendant testified that Britton took a silver pipe that was the size of a broom handle and hit Connor in the face, and then jammed the pole into his mouth and twisted it, breaking the victim's neck. The defendants then buried the victim's body in nearby woods and abandoned his car in a pond. Christopher Keating, On Trial in Death of "Captain Jim," Hartford Courant, June 18, 2001. The court's preliminary instructions in Britton's trial explained that if the jury delivered a unanimous verdict of guilty of a capital felony, then the jury would proceed to a penalty phase hearing, where both aggravating and mitigating factors would be outlined for the jury's consideration. "In the course of that instruction, the trial court included the following explanation: 'In this case, the state has alleged two aggravating factors . . .. One, the defendant committed the crime of capital felony in an especially heinous, cruel and depraved manner. And two, the defendant committed the offense during the commission or attempted commission of or during the immediate flight from the commission or attempted commission of a felony and he had previously been convicted of the same felony'. . . The defendant did not take exception to the charge as given, nor did the defendant request that this part of the charge not be given. The defendant subsequently was acquitted by the jury of the capital felony charge and the jury therefore never proceeded to a penalty phase hearing." State v. Britton, 283 Conn. 598, 613–14 (2007). Based on this record, I agreed with the prosecutor that Britton had committed a death-eligible offense, and therefore I included his case in my study despite his conviction only of manslaughter.

estimate in that row that does converge, only 155 observations are used because 13 cases are perfectly predicted and hence dropped in logit. But the single logit regression that does converge in Row S is still substantial (the logit marginal effect of approximately 5.3 percentage points would imply approximately a 140 percent *higher* rate of death sentencing for minority on white crimes). This estimate is highly statistically significant ($p = 0.000$). Indeed, 34 of the 38 logit estimates shown in Table 7 (21 different regressions, each run with the two different egregiousness measures but four fail to converge) are statistically significant at at least the 0.05 level, and the other four were all significant at the 0.089 level or better.

Interestingly, if one subscribed to the position of the state's expert that the 1–5 egregiousness measure was preferable and the linear probability model should be used (Column 6 of Table 7), then the *smallest* estimated racial disparity would be 0.081 (Row R in Table 7). This tripling of the rate of death sentencing for minority defendant/white victim murders versus white defendant murders would imply that the majority of death sentences given in minority on white cases were driven purely by racial discrimination.

3. The Regression Model of the State's Expert

As just noted, the Table 7 logit regressions showed a statistically significant, higher rate of capital sentencing for minority on white crimes, while the Table 7 OLS regressions showed estimated racial effects that were even higher than the logit marginal effects, albeit not statistically significant. The state's expert offered an array of competing models that purported to show there was no evidence of racial discrimination in capital sentencing that (1) relied on the inferior OLS model, (2) jettisoned most of the variables appearing in my comprehensive models, (3) added in a number of highly questionable variables, and (4) purported to examine cases in which a death sentence was received in Connecticut rather than follow my bottom-line analysis of who ended up with a sustained death sentence.

a. The state's expert's regression still shows a large racial disparity in sentencing. Table 8 shows a revised version of the state's expert's final sentencing equation (Trial Exhibit WWW, page 5, column 4), which continued to follow his approach of using a linear probability (OLS) model with my universe of 205 cases, while correcting three clear errors.[53] The first revision concerns which death sentences should be counted. While I looked at the bottom line of who ends up finally on death row (the nine sustained death sentences), the state's expert argued that one should look at all defendants sentenced to death, regardless of whether a sentence is overturned. While it is reasonable to look at the 12 cases that were sentenced to death (in addition to analyzing the nine sustained death sentences that I used in my sentencing regressions), the state's expert's analysis included only 11 of the 12 who received death sentences (ignoring Ivo Colon, who was also sentenced to death but who departed death row when the prosecutor accepted a lesser sentence after Colon's death sentence was

[53]This regression was not correctly reported in the trial exhibit—Michelson mistakenly copied the coefficient values from his page 4, column 4 regression—but Table 8 uses the variables that Michelson specified (and when I run his table exactly as he did I generated an R^2 that matched what Michelson reported in his exhibit).

Table 8: The State's Expert's OLS Sentencing Regression—Corrected and Now Explaining all 12 Death Sentences in 205 Connecticut Death-Eligible Cases, 1973–2007

Dependent Variable = Death Sentences|Death Eligible

Explanatory Variables	*Coefficient*	*Robust Standard Error*	t	P *Value*
Defendant minority/victim white [34]	0.036	0.041	0.880	0.380
Overall (1–5) egregiousness	0.053**	0.024	2.260	0.025
DANYPLEA [97]	–0.054*	0.029	–1.830	0.068
Defendant female [14]	–0.151**	0.058	–2.610	0.010
Defendant neglected as a child [42]	0.101**	0.048	2.120	0.036
Waterbury [12]	0.481**	0.121	3.970	0.000
DMISTAKE [50]	–0.022	0.035	–0.630	0.532
Murder for hire [17]	0.068	0.053	1.270	0.206
Capital felony charge[141]	0.052**	0.025	2.130	0.034
DACQUITPLUS [16]	–0.142**	0.045	–3.170	0.002
DWITSAW [65]	0.040	0.031	1.290	0.200
Drugs or alcohol [30]	–0.037	0.035	–1.050	0.297
Constant	–0.185**	0.076	–2.430	0.016
$N = 205$, $R^2 = 0.3635$				

NOTES: ** = $p < 0.05$, * = $p < 0.10$. Numbers in brackets following the variable name indicate the number of cases that are equal to 1 for that binary variable.

reversed on appeal). Table 8 therefore corrects this error and explains the 12 cases in which a death sentence was handed down (rather than the nine sustained death sentences that I examined).[54]

The second revision I made in Table 8 corrected the state's expert's miscoding of defendant Ruperto Lugo as female, when he is a male. The third revision corrected the state's expert's miscoding of the DMISTAKE variable, which was supposed to capture certain defenses that were raised (whether or not successfully) by the capital defendants (all of whom were convicted of a nonnegligent homicide).[55]

Correcting these three errors, and leaving everything else the same as the regression offered by the state's expert, generates the results presented in Table 8. As noted earlier, for low-probability events, the logit model would be superior to the OLS model, which virtually never identified the correct level of statistical significance in my Tables 6 and 7, even when the superior logit models were highly significant. Importantly, even though the OLS model

[54]In addition to Ivo Colon, the death sentences of Terry Johnson and Robert Courchesne were also reversed by the Connecticut Supreme Court. After the reversals, the Waterbury prosecutor declined to reseek the death penalty for Colon and Courchesne, so they were both sentenced to life in prison without possibility of parole. The Connecticut Supreme Court ruled that the death penalty did not apply in the Johnson case because there was no statutory aggravating factor present.

[55]The state's expert's DMISTAKE variable did not accurately capture what he intended. He intended to identify cases in which a defendant raised one of a number of defenses. The state's expert's data set reveals that he erroneously transposed the relevant questions regarding these defenses for the cases from the second phase of data collection. As a result, the state's expert's DMISTAKE variable missed more than half the cases that employed one of the defenses that he considered a "mistake."

of Table 8 cannot estimate statistical significance correctly, it still shows that minority on white crimes result in a sentence of death at approximately an 80 percent higher rate than other death-eligible murders—using the sentencing regression of the state's expert.[56]

b. The inclusion of highly dubious variables. The state's expert included a number of new variables in Table 8 that he had not included in his charging regression (shown in Table 5). These newly introduced variables are defined as follows: DANYPLEA—the defendant entered a guilty or no contest plea or the prosecution otherwise waived or refrained from seeking the death penalty; DEFENDANT NEGLECTED AS CHILD—the defendant was abused or neglected as a child; DMISTAKE—lack of intent or accidental killing; MURDER FOR HIRE—capital felony murder for hire aggravator; CAPITAL FELONY CHARGE—defendant was charged with a capital felony; DACQUITPLUS—the court found no probable cause or the defendant was not convicted of a capital felony at the guilt phase of the trial; DRUGS OR ALCOHOL—defendant was substantially affected by drugs or alcohol at the time of the offense.

The methodology for selecting these variables was problematic. The state's expert testified that he just tried variables to find regressors generating high *t* statistics. This type of atheoretical trolling through hundreds or thousands of variables is a highly problematic approach to specification. In his widely cited paper, "Multiple Regression in Legal Proceedings," the famed MIT econometrician Frank Fisher explains to his target audience of judges and lawyers that one should specify one's model in advance of looking at the data based on firm theoretical grounds for variable selection: "In multiple regressions, one should never eliminate a variable that there is firm theoretical foundation for including just because its estimated coefficient happens not to be significant in a particular sample."[57] Adding and deleting variables "by first looking at the data and then including those factors that appear correlated with the dependent variable is a recipe for spurious results."[58] Thus, the state expert's methodology has thrown a cloud over all of his variables since we have no idea which if any of his variables are merely capturing spurious correlations.

Some of the Table 8 variables are highly suspect on theoretical grounds, such as the identifier of a guilty plea, which applies when the defendant entered a guilty or no contest plea or the prosecution otherwise waived or refrained from seeking the death penalty. Since the regression is trying to explain who did or did not receive a death penalty, it is not helpful to use a variable that essentially identifies the mechanism by which a defendant did not receive a death penalty—perhaps because the prosecutor allowed the defendant to

---

[56]The coefficient on the minority defendant/white victim variable is 0.036, meaning that minority defendants who killed white victims were sentenced to death at a rate 3.6 percentage points higher than the omitted category of all other defendant-victim race combinations. The death sentence rate (based on all 12 death sentences) for all other defendant-victim race combinations in the study was 4.7 percent (8 of 171 cases), and thus the comparable rate for minority defendants with white victims was 4.7 + 3.6 = 8.3 percent, which is 80 percent higher than the death sentencing rate of all other death-eligible cases (8.3/4.7 = 1.8).

[57]Franklin M. Fisher, Multiple Regression in Legal Proceedings, 80 Colum. L. Rev. 702, 715 (1980).

[58]Id. at 713–14.

plead to a lesser charge. This error ignores the basic regression injunction that one must never "control for the dependent variable." Such a posttreatment variable is not a proper control in a regression trying to explore the presence of racial discrimination, since it excludes from the analysis much of what we are trying to explain.[59]

Moreover, by controlling for whether the defendant was charged with a capital felony, Table 8 purges from the regression the enormous racial disparity that exists in the initial charging decision (amply demonstrated above in Tables 3–5). The only thing that a regression with this variable can test is whether there was *further* racially disparate treatment *after* the capital charging stage. Even if there were no *further* disparate treatment that would not undo the discrimination identified at the capital charging stage. The enormous racial discrimination against minority defendants charged with killing whites could not be eliminated with race-neutral conduct in the postcharging conduct of the system.

In any event, the harsher treatment accorded to minority on white crimes as evidenced by the large positive coefficient on the minority/white variable in Table 8 shows that the charging stage discrimination has not been alleviated in the subsequent legal proceedings up to the time of sentencing. If one wants to see the full impact of race on sentencing, one must not follow the Table 8 approach and include in a sentencing regression the variable identifying capital felony charges.

The DEFENDANT NEGLECTED AS CHILD variable is also misguided. This variable purports to show that the mistreatment of the defendant as a child is the second strongest contributor to receiving a death sentence (being in Waterbury is first). The inclusion of this variable is a major mistake because if a defendant goes to a death penalty hearing, his lawyers will amass a great deal of information about his difficult childhood. This information will simply not be available for many defendants who do not go to a death penalty hearing. Again, the state's expert fails to consider the importance of avoiding posttreatment variables in his regression models, which leads him to confuse the direction of the causal arrow on this variable: it is not neglect that leads to a higher likelihood of a death penalty but rather the state's quest for the death penalty that generates the greater likelihood of evidence of neglect, which is then reflected in the data set asymmetrically.

After I testified at trial about the error in the "ultimate winner" capital charging regression, the state's expert introduced a new variable, DWITSAW, into both his capital charging and sentencing regressions (see Tables 5 and 8).[60] This late-adopted variable seems unlikely to have causal significance but rather seems to have been chosen to weaken the estimated race effect on sentencing. Thus, for minority on white crimes, three of the 16 cases in which the DWITSAW indicator is on received a sustained death sentence, while only

---

[59]As Gary King notes, if we are trying to estimate the causal effect of a key variable (here, the effect of race on death sentencing), "it makes little sense to control for a variable [that] is in part a consequence of our key causal variable." Gary King, "Truth" is Stranger than Prediction, More Questionable than Causal Inference, 35(4) Am. J. Poli. Sci. 1047–53, 1050 (November 1991) <http://gking.harvard.edu/files/gking/files/truth.pdf>. Michelson's acquittal variable is similarly problematic as a posttreatment variable.

[60]DWITSAW is coded as 1 if the "[w]itness identified accused as person committing the act that resulted in a homicide" or "[w]itness identified accused as person with weapon at or near the scene of the homicide either immediately before or immediately after the act."

one of 18 such cases with no DWITSAW was sentenced to death. But any thought this higher rate of death sentencing for DWITSAW cases is causal evaporates when we look at white on white crimes, and notice that none of the 16 DWITSAW cases for white on white crimes received a sustained death sentence, and three out of 58 with no DWITSAW were sentenced to death.

The state's expert's coding error for his DMISTAKE variable underscores the danger of his approach to specification. He included that variable because he thought it had a low *p* value. When his coding error is corrected, however, this variable no longer meets the professed level of significance for inclusion in the regression (note the high *p* value on this variable in Table 8). Moreover, this regressor also seems oddly gerrymandered. Out of a list of 19 defenses that the DCIs indicated were raised at the guilt phase of the trial, the state's expert combined five into the DMISTAKE variable. According to the coding, this variable would be present if the accused raised a defense that the killing was an accident or a defense of "mistaken identity" or that the killing was merely a case of manslaughter or there was a lack of intent to kill because of mental illness, drugs, or alcohol, but not because of insanity. Since the regression controlled for "substantial influence of drugs or alcohol" with another variable, it is unclear why mental illness is treated differently from insanity as a causal factor in explaining who is sentenced to death.

Moreover, it is not clear why some of these defenses are relevant at all: no defense that the killing was accidental succeeded, which is why all 205 defendants in the sample were convicted of nonnegligent homicides.[61] Should it matter to whether a death sentence was given if a defense was raised yet rejected? Why should the variable capture a "mistaken identity" defense and not an alibi defense? Such concocted, after-the-fact variables raise many more questions than they answer.

c. Dropping dubious variables and using logit. Dropping the dubious variables and the perfect predictors (DEF FEMALE and DACQUITPLUS) allows us to employ the superior logit model to assess the impact of race on sentencing using an improved version of the regression model offered by the state's expert. While I noted above that DWITSAW was a problematic variable, one might think it useful to have some controls to capture the strength of the evidence of guilt. Accordingly, I replaced the problematic DWITSAW with DCONFESS and DNODEFENSE, which were used in Tables 4 and 7. The results are shown in Table 9 (again using all 12 death sentences, as in Table 8).

Now we see that the harsher treatment of minority defendants who kill white victims has been restored to what we have previously seen in Tables 6 and 7. This result is significant at the 0.053 level and the marginal effect for minority on white crimes is 0.035—reflecting a roughly 75 percent *higher* rate of capital sentencing for minority on white crimes relevant to those committed by white defendants when we consider all 12 Connecticut

---

[61]Indeed, the Abin Britton case that was discussed in footnote 52 was not coded as a DMISTAKE case, yet the defendant was convicted only of manslaughter, which was one of the defenses that was supposed to be captured by DMISTAKE. It is not clear that DMISTAKE is correctly and consistently capturing any useful information.

Table 9: Logit Model Dropping Problematic Variables from and Adding Two Strength of Evidence Variables to the State's Expert's Regression, Explaining all 12 Death Sentences in 205 Connecticut Death-Eligible Cases, 1973–2007

Dependent Variable = Death Sentences|Death Eligible

Explanatory Variables	*Logit Coefficient*	*Robust Standard Error*	z	P > |z|
Defendant minority/victim white [34]	1.461*	0.754	1.940	0.053
Overall (1–5) egregiousness	2.189**	0.704	3.110	0.002
Waterbury [12]	4.221**	0.881	4.790	0.000
Murder for hire [17]	2.530*	1.469	1.720	0.085
Drugs or alcohol [30]	0.012	0.988	0.010	0.991
DNODEFENSE [67]	–0.143	0.901	–0.160	0.874
DCONFESS [121]	–1.724*	0.965	–1.790	0.074
Constant	–11.746**	3.022	–3.890	0.000
$N = 205$, Pseudo $R^2 = 0.3880$				

NOTES: ** = $p < 0.05$, * = $p < 0.10$. Numbers in brackets following the variable name indicate the number of cases that are equal to 1 for that binary variable.

death sentences and drop the dubious variables from the sentencing regression offered by the state's expert.[62]

d. Nine sustained death sentences for the regression of the state's expert and then dropping flawed variables. The previous discussion focused on the death sentencing rate based on all 12 death sentences, thereby essentially ignoring that three of those death sentences were reversed (leading to the final exit from death row for the previously condemned convicts Johnson, Courchesne, and Colon). For completeness, Table 10 shows the results of using the state's expert's OLS specification for the bottom-line death sentencing rate based on nine sustained death sentences (analogous to Table 8, which instead used the 12 death sentences), and then Table 11 shows the results of dropping the dubious variables and perfect predictors and using the more appropriate logit model (analogous to Table 9). As we saw in Tables 6 and 7, the OLS sentencing model (using the nine sustained death sentences) shows a substantially higher sentencing rate for minority on white crimes (almost triple the death sentencing rate of other racial groups—Table 10), but not a high degree of statistical significance. If we drop the dubious variables, add in the strength of evidence variables, and employ the superior logit model (just as we did in going from Table 8 to Table 9), the racial disparity in sentencing is clearly discerned and the high degree of statistical significance is restored (note the p value of 0.013 in Table 11).

---

[62]The marginal effect for the minority defendant/white victim variable is 0.035, meaning that minority defendants who killed white victims were sentenced to death at a rate 3.5 percentage points higher than the omitted category of all other defendant-victim race combinations. The death sentence rate (based on all 12 sentences) for all other defendant-victim race combinations in the study was 4.7 percent (8 of 171 cases), and thus the comparable rate for minority defendants with white victims was 4.7 + 3.5 = 8.2 percent, which is approximately 75 percent higher than the death sentencing rate of all other death-eligible cases (8.2 /4.7 = 1.74).

Table 10: The State's Expert's OLS Sentencing Regression—Corrected and Now Explaining Nine Sustained Death Sentences in 205 Connecticut Death-Eligible Cases, 1973–2007

Dependent Variable = Death Sentences | Death Eligible

Explanatory Variables	*Coefficient*	*Robust Standard Error*	T	P *Value*
Defendant minority/victim white [34]	0.054	0.042	1.270	0.207
Overall (1–5) egregiousness	0.055**	0.023	2.390	0.018
DANYPLEA [97]	–0.058**	0.027	–2.140	0.033
Defendant female [14]	–0.111**	0.048	–2.320	0.022
Defendant neglected as a child [42]	0.097**	0.043	2.250	0.025
Waterbury [12]	0.317**	0.115	2.770	0.006
DMISTAKE [50]	–0.044	0.033	–1.330	0.185
Murder for hire [17]	0.072	0.052	1.390	0.167
Capital felony charge[141]	0.032	0.022	1.460	0.146
DACQUITPLUS [16]	–0.103**	0.036	–2.850	0.005
DWITSAW [65]	0.033	0.028	1.190	0.236
Drugs or alcohol [30]	–0.072**	0.032	–2.260	0.025
constant	–0.176**	0.076	–2.330	0.021
$N = 205$, $R^2 = 0.2984$				

NOTES: ** = $p < 0.05$, * = $p < 0.10$. Numbers in brackets following the variable name indicate the number of cases that are equal to 1 for that binary variable.

Table 11: Logit Model Dropping Problematic Variables from and Adding Two Strength of Evidence Variables to the State's Expert's Regression, Explaining Nine Sustained Death Sentences in 205 Connecticut Death-Eligible Cases, 1973–2007

Dependent Variable = Death Sentences|Death Eligible

Explanatory Variables	*Logit Coefficient*	*Robust Standard Error*	Z	P *Value*
Defendant minority/victim white [34]	2.038**	0.823	2.480	0.013
Overall (1–5) egregiousness	2.966**	0.747	3.970	0.000
Waterbury [12]	3.882**	1.144	3.390	0.001
Murder for hire [17]	3.429**	1.545	2.220	0.026
DNODEFENSE [67]	–0.401	0.926	–0.430	0.665
DCONFESS [121]	–1.761*	1.015	–1.730	0.083
Constant	–15.470**	3.422	–4.520	0.000
$N = 205$, pseudo $R^2 = 0.4124$				

NOTES: ** = $p < 0.05$, * = $p < 0.10$. Numbers in brackets following the variable name indicate the number of cases that are equal to 1 for that binary variable.

The marginal effect of 2.7 percentage points generated by the Table 11 regression means that minority on white crimes are sentenced at a 93 percent higher rate. The sustained death sentence rate for all other defendant-victim race combinations in the study was 2.9 percent (5 of 171 cases), and thus the comparable rate for minority defendants with white victims was 2.9 + 2.7 = 5.6 percent, which is nearly double the death sentencing rate of all other death-eligible cases (5.6/2.9 = 1.93). Accordingly, with appropriate

modifications, the sentencing model of the state's expert supports the findings of harsher death sentencing of minority on white crimes, looking at all 12 death sentences (Table 9) or the nine sustained death sentences (Table 11).

IV. Regression Analysis of Geographic Disparities in Connecticut Capital Outcomes

A. Capital Charging

The regression models used in Section III that established racial disparities in capital outcomes can also be used to test whether the Connecticut death penalty regime is operating as a unified system of law or whether the treatment of a death-eligible case varies widely depending upon in which of the judicial districts the crime occurs. Beginning with Table 5, we see that the state's expert found that New Haven, New Britain, and Danbury are 35–43 percentage points *less* likely to file a capital felony charge than the prosecutors throughout the rest of the state. I obtained similar results in my charging regression when I added these three judicial districts to my comprehensive regression (Row T in Table 4).[63] Clearly, the different prosecutors make capital charging decisions for similar cases dramatically differently.

Interestingly, while the Waterbury prosecutor who was renowned for his support for the death penalty did file capital felony charges at a somewhat higher rate than other prosecutors (9 of 12 = 75 percent vs. 132 out of 193 = 68.4 percent in the rest of the state), this capital charging rate differential was not statistically significant (see Table 3). As we shall see in the following section, the big Waterbury sentencing effect came not from the decision to bring more capital felony charges, but from the greater willingness to seek and secure the death penalty for those who were convicted of a capital felony.

B. Capital Sentencing

The raw data of Table 2 revealed that while outside Waterbury only 2.6 percent of the 193 death-eligible cases received a sustained death sentence, the sustained death sentencing rate in Waterbury was more than an order of magnitude higher at 33.3 percent (4 of 12 death-eligible cases). Indeed, the most consistent and undisputed finding in all the regression analyses of Connecticut data by both experts is that the single most important influence from 1973–2007 explaining whether a death-eligible defendant would be sentenced to death was whether the crime occurred in Waterbury.

In fact, whether one looks at my capital sentencing regression (Table 6) or that of the state's expert (Table 8 examining all 12 death sentences) or the state's expert's regression model applied only to the nine sustained death sentences (Table 10), one sees that when

---

[63]For the OLS regressions, New Haven, New Britain, and Danbury are 36–46 percentage points less likely to file a capital charge controlling for comprehensive egregiousness, and 38–56 percentage points less likely controlling for overall egregiousness. The marginal effects in the logit regressions range from −0.543 to −0.681. All of these estimates are significant at at least the 0.05 level.

a full regression model is specified, the estimated "Waterbury effect" on capital sentencing is as large or larger than the disparity shown in the raw data. Table 8 shows that the *p* value on the estimated Waterbury effect provided by the state's expert is 0.000, indicating that the likelihood that this finding is a chance occurrence is vanishingly remote.

What explains the enormously higher rates at which capital-eligible defendants are sentenced to death in Waterbury versus the rest of the state? The previous section noted the somewhat higher capital charging rates in Waterbury, but the big impact comes in the next three stages: pushing for higher capital felony conviction rates, pushing for the death penalty after every capital felony conviction, and securing death sentences in all such cases. Specifically, for the nine cases that former Waterbury prosecutor John Connelly charged with a capital felony, six were convicted of a capital felony and all six were sentenced to death (although two were overturned and ended up with life sentences: Ivo Colon and Robert Courchesne).

In contrast, of the 132 non-Waterbury cases charged with a capital felony, 60 were convicted of a capital felony, of which 22 went to a death sentencing hearing and six were sentenced to death (with the Terry Johnson death sentence overturned). The arbitrariness of geography in determining criminal justice outcomes is a dominant factor in the Connecticut death penalty regime, despite the fact that, as a small state in which judges and prosecutors are appointed rather than elected, there is no articulated rationale for tolerating such immense geographic variation in capital sentencing.[64]

C. Race and Geography in Capital Sentencing

Table 12 provides a more refined illustration of the enormous impact of race and the Waterbury effect on capital sentencing in Connecticut. The first panel simply takes the base sentencing regression of Table 6 and estimates the likelihood of receiving a sustained death sentence (in the post-1998 period) for three racial groups and inside and outside Waterbury. To generate these estimates from the logit models in Table 6 (Columns 1 and 4), I used the mean values for all the other explanatory variables.

The results are quite dramatic. Panel 1 of Table 12 suggests that for a death-eligible murder of average egregiousness to result in a sustained death sentence outside Waterbury, it would almost certainly have to involve a minority killing a white. For such a minority defendant, the death penalty risk is an order of magnitude higher than it is for any other death-eligible murderer. Thus, we see for the average death-eligible murder (using the Composite Overall Egregiousness measure) in which a white defendant kills a white victim outside Waterbury, there is a 0.38 percent likelihood that the defendant will be sentenced to death when it is available (see Row I (A), Column 5 of Table 12), but that a minority killing a white under similar circumstances has a 4.56 percent chance of

---

[64]As a legal commentator who *supports* the death penalty recently noted: "[T]he Constitution . . . promises equality of treatment under state law, and this guarantee is hard to square with differential treatment of similar crimes within state boundaries. . . . The state is the level of government responsible for criminal law enforcement, and therefore the most important thing is that each state's rules be applied consistently throughout its jurisdiction." Charles Lane, Stay of Execution: Saving the Death Penalty from Itself 81, 94 (2010).

Table 12: Predicted Probabilities that a Capital-Eligible Case Will Receive a Sustained Death Sentence (Based on Table 6 Logit Sentencing Models)

	Death Sentence—Composite Egregiousness (4–12)				*Death Sentence—Overall Egregiousness (1–5)*			
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
	Predicted Pr (Death Sentence) Outside Waterbury	*Predicted Pr (Death Sentence) Inside Waterbury*	*Percentage Point Difference "Inside" vs. "Outside" Waterbury (2)-(1)*	*Ratio "Inside" Over "Outside" Waterbury (2)/(1)*	*Predicted Pr (Death Sentence) Outside Waterbury*	*Predicted Pr (Death Sentence) Inside Waterbury*	*Percentage Point Difference "Inside" vs. "Outside" Waterbury (6)-(5)*	*Ratio "Inside" Over "Outside" Waterbury (6)/(5)*
I. Across all cases (post-1998)								
(A) White defendant—white victim	0.53%	71.32%	70.79**	134.57	0.38%	36.17%	35.79	95.18
(B) Minority defendant—minority victim	0.46%	68.33%	67.87**	148.54	0.35%	33.92%	33.57	96.91
(C) Minority defendant—white victim	5.96%	96.72%	90.74***	16.23	4.56%	87.52%	82.96***	19.19
(C)/(A)	11.25	1.36			12.00	2.42		
(C)/(B)	12.96	1.42			13.03	2.58		
II. Omitted crime category (post-1998)								
(A) White defendant—white victim	0.04%	14.92%	14.88	373.00	0.07%	9.12%	9.05	130.29
(B) Minority defendant—minority victim	0.03%	13.20%	13.17	440.00	0.06%	8.33%	8.27	138.83
(C) Minority defendant—white victim	0.44%	67.50%	67.06*	153.41	0.84%	55.40%	54.56	65.95
(C)/(A)	11.00	4.52			12.00	6.07		
(C)/(B)	14.67	5.11			14.00	6.65		
III. Multiple victims category (post-1998)								
(A) White defendant—white victim	1.00%	82.43%	81.43***	82.43	0.57%	45.67%	45.10	80.12
(B) Minority defendant—minority victim	0.87%	80.28%	79.41***	92.28	0.52%	43.23%	42.71	83.13
(C) Minority defendant—white victim	10.68%	98.23%	87.55***	9.20	6.62%	91.23%	84.62***	13.78
(C)/(A)	10.68	1.19			11.61	2.00		
(C)/(B)	12.28	1.22			12.73	2.11		

NOTES: *** = $p < 0.01$, ** = $p < 0.05$, * = $p < 0.10$. All estimated probabilities are based on a case with mean values for the other explanatory variables in Table 6 (Columns 1 and 4) that are not specifically identified in Table 12 for the post-1998 period. Panel II estimated probabilities are based on the "omitted category," which includes the following types of murders: police killings, murder by lifer, and murder by one with prior murder conviction (no cases fell into the final category: death by illegal drugs), and Panel III estimated probabilities are based on a case using the most common murder category (multiple victims). Since Robert Courchesne's death sentence was reversed, there are no white defendant/minority victim cases that have received a sustained death sentence, rendering a logit-based prediction impossible for white on minority murders.

a sustained death sentence (which is 12 times the rate). Panels II and III show similar patterns for the omitted category of police killings, murders by lifers or those with previous murder convictions, as well as for multiple-victim killings. These enormous levels of racial disparity raise equal protection concerns because "members of [one] race [are] being singled out for more severe punishment than others charged with the same offense."[65]

We can also look across the table, which shows that for the first two race categories of intraracial killings (Rows A and B in the three panels of Table 12), the likelihood of a death sentence is roughly two orders of magnitude higher in Waterbury versus outside Waterbury. For example, an average death-eligible white on white murder outside Waterbury has only a 0.38 percent likelihood of receiving a death sentence, while the same crime in Waterbury would have a 36.17 percent likelihood of ending up with a sustained death sentence. In other words, a white defendant killing a white victim in Waterbury is roughly 95 times more likely to receive a death penalty than a similar death-eligible case elsewhere in the state (see Panel 1, Row A, Column 8 of Table 12).

If we compare the effect of both race and geography on capital sentencing, the disparities can be even more glaring. For example, an average white on white multiple-victim death-eligible murder outside Waterbury (again using the Overall Egregiousness measure) has a 0.57 percent chance of being sentenced to death (see Panel 3, Row A, Column 5 of Table 12). But if a minority defendant were to commit the identical crime in Waterbury, he would have a 91.23 percent likelihood of receiving a sustained death sentence (see Panel 3, Row C, Column 6 of Table 12). The minority defendant in Waterbury would be 160 times more likely to receive a sustained death sentence than the comparable white defendant in the rest of the state.

The essential message that can be distilled from the Table 12 regression analysis across an array of murder categories is that the likelihood that a death-eligible murder will result in a death sentence outside Waterbury is at least an order of magnitude higher for minority on white murders. Minority on white murders will also have an order of magnitude higher probability of receiving the death sentence in Waterbury versus elsewhere in the state, and all other murders will have roughly two orders of magnitude higher rates of death sentencing in Waterbury versus elsewhere. These are prodigious race and geographic effects on who is sentenced to die in Connecticut.

V. Infrequency and Inadequate Tailoring in Death Sentencing in Connecticut

A. Are Connecticut Death Sentences "Freakishly Rare"?

Connecticut has executed one criminal defendant and had a total of nine sustained death sentences over a period during which there were approximately 4,700

---

[65]Furman v. Georgia, 408 U.S. 449 (1972) (Powell, J. dissenting).

murders.[66] As Justice Brennan observed: "Evidence that a penalty is imposed only infrequently suggests not only that jurisdictions are reluctant to apply it but also that, when it is applied, its imposition is arbitrary and therefore unconstitutional. *Furman v. Georgia*, 408 U.S. 238, 92 S.Ct. 2726 (1972)."[67] Fifteen percent of death-eligible murder trial convictions resulted in a death sentence in pre-*Furman* Georgia, a level that was deemed to be freakishly rare and therefore arbitrary and unconstitutional in the *Furman* case itself.[68] Since *Furman*, Connecticut imposed sustained death sentences at a rate of 4.4 percent (9 of 205), which is among the lowest in the nation and more than two-thirds lower than the 15 percent pre-*Furman* Georgia rate that was deemed problematic.[69]

B. Are Connecticut Death Sentences Limited to the Worst of the Worst?

The Supreme Court has held that a death penalty regime must provide a "meaningful basis for distinguishing the few cases in which [death] is imposed from the many cases in which it is not."[70] An important line of U.S. Supreme Court cases establishes the "narrowing jurisprudence" of the Eighth Amendment that limits the reach of capital punishment to only the most serious crimes. As the Court stated in *Atkins*:

> *Gregg* v. *Georgia*, 428 U. S. 153, 183 (1976) (joint opinion of Stewart, Powell, and Stevens, JJ.), identified "retribution and deterrence of capital crimes by prospective offenders" as the social purposes served by the death penalty. Unless the imposition of the death penalty . . . "*measurably* contributes to one or both of these goals, it 'is nothing more than the purposeless and needless imposition of pain and suffering,' and hence an unconstitutional punishment." *Enmund*, 458 U. S., at 798.

---

[66]As discussed in footnote 49, one of the nine recently had his death sentence overturned by the Connecticut Supreme Court, but the state is seeking to reinstate this death sentence and the convict (Santiago) remains on death row.

[67]Tison v. Arizona, 481 U.S. 137 (1987) (Brennan, J., dissenting).

[68]David C. Baldus, George G. Woodward & Charles A. Pulaski Jr., Equal Justice and the Death Penalty: A Legal and Empirical Analysis at 80 (1990): "In *Furman v. Georgia*, the infrequency with which juries actually imposed death sentences in death-eligible cases concerned each of the concurring justices. The *Furman* opinions suggest that the justices estimated that the national death-sentencing rate among convicted murderers was less than 0.20. Our pre-*Furman* data from Georgia indicated an unadjusted death-sentencing rate of 0.15 (44/294) in cases that resulted in murder convictions after trial, all of whose defendants were death eligible under Georgia law. This figure is quite consistent with the Court's estimate of the national rate."

[69]In an affidavit submitted in a California death penalty case, David Baldus stated that "the post-Furman California death sentencing rate of 4.6% among all death-eligible cases is among the lowest in the nation and over two-thirds lower than the death sentencing rate in pre-Furman Georgia" (p. 36). Connecticut's rate is smaller still than California's. The considerably higher rates of death sentencing that were still condemned in *Furman* and the low rates in California are identified in a recent empirical study of the California system conducted by George Woodworth, Michael Laurence, Robin Glenn, Richard Newell, and David Baldus that is based on a 1,900-case sample drawn from a universe of 27,453 California homicide convictions with offense dates between 1978 and 2002. Decl. of David C. Baldus on November 18, 2010 (Exhibit 219), Ashmus v. Wong, No. 3:93-cv-00594-TEH, U.S. District Court, ND Cal., at 4, and Table 5 on p29.

[70]*Furman*, 408 U.S. 313 (1972) (White, J., concurring).

> *With respect to retribution—the interest in seeing that the offender gets his "just deserts"—the severity of the appropriate punishment necessarily depends on the culpability of the offender.* Since *Gregg*, our jurisprudence has consistently confined the imposition of the death penalty to a narrow category of the most serious crimes. For example, in *Godfrey* v. *Georgia*, 446 U. S. 420 (1980), we set aside a death sentence because the petitioner's crimes did not reflect "a consciousness materially more 'depraved' than that of any person guilty of murder." *Id.*, at 433. (*Atkins v. Virginia*, 536 U.S. 304, 319 (2002), emphasis added)

In *Godfrey v. Georgia*, the Court vacated the petitioner's death sentence for a double murder, explaining: "There is no principled way to distinguish this case, in which the death penalty was imposed, from the many cases in which it was not."[71] As the Court remarked in *Atkins* in 2002, *Godfrey* shows that "the culpability of the average murderer is insufficient to justify the most extreme sanction available to the State."[72] When examining Connecticut's death penalty apparatus, we are left with the Court's command that "[c]apital punishment must be limited to those offenders who commit 'a narrow category of the most serious crimes' and whose extreme culpability makes them 'the most deserving of execution.' "[73] As Justice Souter has noted, *Roper v. Simmons* stands for the proposition that "within the category of capital crimes, the death penalty must be reserved for 'the worst of the worst.' "[74]

Can we give empirical content to this claim? Presumably, this would mean that within the 205 death-eligible cases, one would expect that the nine sustained death sentences should be reserved for the most egregious of the 205 crimes. But in fact only one of the nine death sentences was given to one of the most egregious crimes. The egregiousness scores for Michael Ross were 11.17 on the Composite 4–12 Scale and 4.83 on the Overall 1–5 Scale. There were four cases that scored higher on the 4–12 Scale that did not receive a death sentence, and two that scored equal to or higher on the 1–5 Scale that did not receive a death sentence.

The other eight death row inmates from the studied group, however, were *not* among even the 15 most egregious cases. For some cases resulting in a death sentence, literally 60 to well over 100 cases in the sample of 205 are more egregious yet did not receive the death penalty (see Table 13). For the eight defendants analyzed in my study who are currently on death row in Connecticut (after the 2005 execution of Michael Ross), the median number of equally or more egregious death-eligible cases receiving nondeath sentences is 46 under the Composite Egregiousness measure and 35 under the Overall Egregiousness score. If the constitutional mandate that the death penalty must be limited to the worst offenders within the class of death-eligible defendants has any empirical meaning, it would seem that only the sentence for Michael Ross could meet that standard.

This evidence provides a factual basis for the claim that the Connecticut death penalty regime is unconstitutional because it fails to comply with the Eighth Amendment's

---

[71] *Godfrey*, 446 U.S. 420, 433 (1980).

[72] Atkins v. Virginia, 536 U.S. 304, 319 (2002).

[73] Roper v. Simmons, 543 U.S. 551, 568 (2005) (quoting *Atkins*, 536 U.S. at 319).

[74] Kansas v. Marsh, 548 U.S. 163, 206 (2006) (Souter, J., dissenting).

Table 13: Number of Nondeath Cases with Equal or Higher Egregiousness Scores than the Nine Sustained Death Sentences from the Original Sample of 205 Death-Eligible Cases

Defendant	*Year of Conviction*	*Composite Score (4–12)*	*# of Nondeath Cases with Equal or Higher Scores*	*Overall Score (1–5)*	*# of Nondeath Cases with Equal or Higher Scores*
Santiago	2004	7.11	170	3.44	117
Reynolds	1995	7.56	148	3.89	61
Campbell	1991	8.72	65	4.06	42
Webb	2004	8.89	54	4.44	21
Cobb	1991	9.28	38	4.61	16
Breton	1998	9.44	34	3.89	61
Peeler	2000	9.56	33	4.28	28
Rizzo	2005	9.56	33	4.28	28
Ross	1987	11.17	4	4.83	2

"narrowing" requirements recognized by the U.S. Supreme Court in *Furman* and fails to distinguish between the many death-eligible cases that do not receive the death sentence and the few, often equally or less egregious, crimes that do receive a sentence of death.

While the data analyzed in this article come from 205 death-eligible cases that end with a conviction, the focus on this limited sample actually *understates* the degree of arbitrariness in the system. If one widens the lens to focus on *all* death-eligible murders, the system is even less predictable than the above results indicate. Just prior to the adoption of the state's new death penalty statute in 1973, only 7 percent of murder cases were not cleared by arrest or extraordinary means. Since that time, there has been a steady erosion in the fraction of murders that are cleared (see Figure 1). Today, roughly 40 percent of murders go unsolved. If this current rate of clearances and death sentencing were to persist, then for every murderer who received a sustained death sentence, at least 15 death-eligible murderers would not be punished at all.[75]

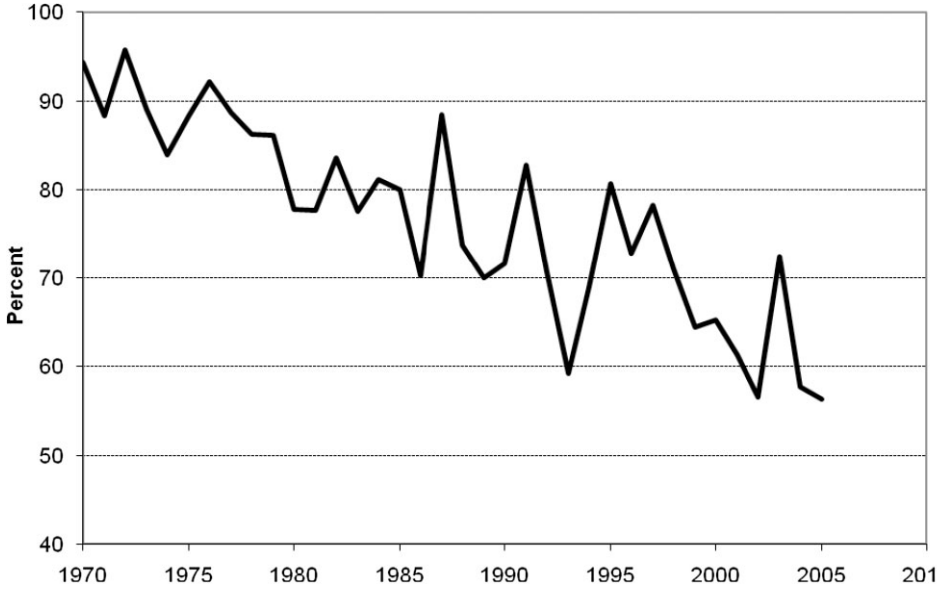
VI. The Decision of the Trial Court

Judge Samuel Sferrazza's decision of October 2013 began by holding that the petitioner's claims of racial discrimination were barred by the decision in *McCleskey v. Kemp*, which he ruled applied for both federal and state constitutional claims.[76] This decision was a bit puzzling since the Connecticut Supreme Court had specifically endorsed the retention of

[75]If nine of 205 is the rate of death sentencing among capital-eligible murders, then we would expect a similar number of sustained death sentences in the next 205 death-eligible murders that make it into the criminal justice system. Yet at the current clearance rate of 60 percent, catching 205 murderers means that 342 death-eligible crimes would have been committed and 137 murderers would never be caught. One-hundred-thirty-seven is more than 15 times the nine we assume will be ultimately sentenced to death. Moreover, not all cases that are cleared lead to a conviction (recall the arrest of OJ Simpson cleared the double-murder he was charged with but did not lead to a conviction). The above numbers would be even more extreme if we captured this other avenue in which death-eligible murderers go free.

[76]In re Death Penalty Disparity Claims, 2013 WL 5879422 (Conn. Super. Ct., Oct. 11, 2013).

Figure 1: Clearance by arrest or exceptional means: Connecticut.



an expert to conduct a sophisticated statistical analysis of homicide prosecutions in Connecticut to determine whether the troubling racial disparities depicted in the raw data could be explained by legitimate factors, and the state's pretrial motion to dismiss based on *McCleskey* had been rejected by Judge Stanley Fuger.[77]

Judge Sferrazza then stated that because the Connecticut Supreme Court might rule differently on the *McCleskey* issue, he should address the petitioners' empirical claims. His ultimate conclusion was that even if statistical evidence can provide an adequate basis for establishing a state constitutional violation in Connecticut's capital punishment regime, the petitioners had not made an adequate showing of discrimination or arbitrariness.

The decision was troubling in that the judge completely ignored salient issues conceded by the state's expert (or established by the corrected "ultimate winner" capital charging regression) concerning (1) the large and statistically significant geographic and racial disparities in capital charging and (2) the legal and factual issue of whether Connecticut has improperly failed to limit the death penalty to the worst of the worst

---

[77]In rejecting the state's motion to dismiss in this case on Feb. 27, 2008, Judge Fuger noted that "the petition alleges that there is impermissible racial disparity and other impermissible factors that creep into the decisions to charge, to prosecute, to impose and to inflict this most ultimate of penalties. The petition clearly asserts that this is a violation of the Constitution of the State of Connecticut." In re Death Penalty Disparity Claims v. Commissioner of Corrs., 2008 WL 713763 (Conn. Super. Ct., Feb. 27, 2008). The court went on to note that McCleskey v. Kemp, 481 U.S. 279 (1987) would not be an impediment to the case going forward, since "[i]t is clear that the petitioners may seek to demonstrate that the imposition of the death penalty in Connecticut violates the Constitution of the state of Connecticut, even though such a statistical attack might be unavailing on the federal arena."

defendants. Moreover, the judge's discussion of the statistical findings concerning race, gender, and geography in capital sentencing was badly flawed in numerous respects.

A. The Judge Ignores Arbitrariness and Discrimination in Capital Charging

1. Geography is a Major Influence on Capital Charging

Section IV.A showed that capital charging decisions in Connecticut have not been made uniformly throughout the state and that this finding was unassailable in both the state's expert's "ultimate winner" model (Table 5) and in my capital charging regression models. Of the 27 factors included in the Table 5 regression, the one with the highest *t* statistic was the New Haven indicator. Indeed, this regression shows that New Haven, New Britain, and Danbury cases were substantially less likely to be capitally charged than similar cases in other judicial districts. Only one other factor in the state's expert's Table 5 regression has as large an estimated effect on the likelihood of charging than the impact of whether the case occurred in New Britain or Danbury (which reduced the likelihood of capital charging by 43.3 and 39.4 percentage points, respectively). No other factor of any kind in my Table 3 capital charging regressions has an impact on charging of that magnitude. The evidence presented at trial showed that the arbitrary factor of geography powerfully affects capital charging.

To underscore that this is not an issue about which there was any dispute, consider the state's expert's testimony at trial when asked about geographic disparities in capital sentencing in his latest report.

> Q [Your regression table] also shows statistically significant disparity in capital charging based on geography, does it not?
> A Well, based on the prosecutor, which is defined here as geography. *There has never been any dispute about that.*[78]

Furthermore, the state's expert acknowledged in deposition that there is "no question" that capital cases are treated differently across the state's judicial districts.

> Q And isn't it true that based on your compilation of the data, as the state's retained expert, you have concluded that offenders, similar offenders committing similar capital offenses in different parts of the state are prosecuted differently and receive the death penalty differently for the same offense?
> A . . . I say they get the death penalty differently. . . . There is no question that Waterbury is different from New Haven.
> Q And New Britain. Waterbury is different than New Britain?
> A Yes, that's right, New Britain would be similar to New Haven.
> Q So you concluded, as the state's expert, that in the state of Connecticut, the death penalty is administered differently to similar offenders committing similar offenses depending upon where in the state the crime occurs?
> A I did. . . .[79]

---

[78]Trial Transcript, Oct. 2, 2012, p124 (emphasis added).

[79]Michelson Dep., Sept. 30 2009, 545:25.

But when the judge addressed the issue of disparities in capital charging across different judicial districts in Connecticut, his only comment was that Waterbury's rate of capital charging is not statistically significantly higher than that for the rest of the state taken as a whole. The judge ignored the undeniable evidence that other judicial districts clearly deviated substantially in their rates of capital charging from Waterbury and the rest of the state.

2. Race is a Powerful Influence on Capital Charging

One of the most important issues at trial was the unequivocal evidence that race influenced capital charging in Connecticut. Controlling for a large array of factors,[80] I found that race powerfully influenced capital charging (see Tables 3 and 4). In fact, the evidence was unassailable that race influenced capital charging in Connecticut, and the history of this litigation showed that it was impossible for the state's expert to obscure this race effect (see the discussion of Table 5 in Section III.A.3).

Indeed, the state's expert testified at trial that as far back as August 2010, he informed the state that his statistical evaluation revealed that race influenced capital charging in Connecticut.

> Q Now, you told us . . . at the beginning of your testimony, on direct examination, that when you see things and your client wants to know, you tell your client. So did you tell your client . . . I've done seven reports now, and here we are August 20, 2010. I've corrected my databases. I've amplified my databases. I've had opportunity to review. I've incurred over $655-thousand worth of time, and *I personally, Stephan Michelson, agree with the petitioners' claim and the petitioners' expert that there is statistically significant disparity in capital felony charging based on race of defendant [being black] and race of victim being white in Connecticut*; that there is that same disparity based on gender in capital felony charging in Connecticut, and there is that same disparity based on geography in Connecticut? *Did you tell your client that*?
> A *Of course.*[81]

In light of such admissions, one might have expected a clear judicial finding of racial disparity in capital charging. Instead, the judge largely ignored my findings that prosecutors charged minority defendants accused of killing white victims at a substantially higher rate than minority defendants accused of killing minority victims. Nor did the judge allude to the state's expert's error in the "ultimate winner" regression or the results of correcting that error, which showed a strong finding that black defendant, white victim cases were capitally charged at substantially higher rates than other similar crimes in which blacks killed

---

[80]These controls included geographic and time indicators, various measures reflecting the aggravating and mitigating aspects of the crime, the nature of the crime that established it as a capital felony, measures of the culpability of the defendant, the suffering of the victim, the number of victims and aspects of the victim's circumstances, indictors of whether the defendant had killed a stranger or had prior prison sentences, and various measures of the strength of the evidence, including whether the defendant had admitted committing the crime, had made self-incriminating statements to a third party, had not asserted any defense to the charges, or was inculpated by more than circumstantial evidence.

[81]Trial Transcript, Oct. 2, 2012, p140 (emphasis added).

minority victims. On this absolutely critical issue for which the best possible evidence was available, the judge made no finding on the impact of race on capital charging.

B. The Judge Ignores the Issue of the Failure to Limit the Death Penalty to the Worst of the Worst Offenders Within Death-Eligible Cases

The primary goal of the elaborate Connecticut death penalty apparatus is to distinguish between the few death-eligible cases that will receive a sentence of death and the many that will not. If the retributive goal of capital punishment is to be served, a dominant factor in selecting the few to condemn must be "the culpability of the offender."

Both experts tested for this and found the egregiousness of the case was either an utterly unimportant factor in generating capital outcomes in Connecticut during the study period (in the case of Michelson's assessment of the most egregious cases) or it was dwarfed by the irrelevant factors of geography, gender, and race. The state's expert could scarcely have been more emphatic in his finding that the Connecticut death penalty regime has not been reserved for the worst of the worst offenders. He testified that my egregiousness measure showed so little effect that it did not deserve to be included in the regressions: "Why did Professor Donohue use it? It was just totally . . . irrelevant" (T. 10/2/12 at 155–56).

Indeed, the state's expert attempted to test whether capital punishment in Connecticut is limited to the worst of the worst crimes and he found that it was not. In particular, his AWFUL variable, coded to indicate the state's expert's intuitive ratings of the awfulness of a crime, did not relate to whether a crime was charged as a capital offense or received a sentence of death, as he directly stated at trial.[82]

When asked how the Waterbury's State's Attorney (then John Connelly) decides to pursue a capital sentence, the state's expert responded: "he says that if it's death eligible, he will ask for the death penalty."[83] Since crimes committed in Waterbury are treated more harshly than *identical* crimes committed elsewhere in the state, as the state's expert acknowledged, this necessarily implies that the Connecticut death penalty regime does not limit the death penalty to the worst possible offenders. This proposition follows logically if there is nothing that makes a murder in Waterbury more egregious than a similar crime committed elsewhere in Connecticut. The same logical point applies if there is substantial influence of any other irrational discrimination on the basis of race, gender, and so forth.

Section V.B sets forth the evidence showing the large number of equally or more egregious cases that did not receive the death penalty for the eight inmates on death row from our study period. Again, on this crucial issue, the judge says nothing, making no

---

[82]The state's expert reports on page 309 of his Aug. 20, 2010 report that he based his determination of egregiousness on even more complete details of the facts of the crimes than were available in my data set. Even so, he still finds AWFUL was nowhere near statistically significant: "My assessment of the awfulness of the crime was not informative enough to be included as an explainer of the capital charge." Michelson Report, Part B, p123 (Aug. 20, 2010). Nor was it included in Michelson's assessment of who receives the death penalty versus life sentences: "my variable **awful** is not related to the death sentence, in this analysis, even enough to be displayed." Id. at 148.

[83]Michelson Dep. 956:23–24.

reference to the issue of whether the Connecticut death penalty has been restricted to the worst offenders within the class of death-eligible crimes.

In light of the abolition of the Connecticut death penalty in April 2012, retribution becomes the only constitutionally permissible rationale for executing the condemned prisoners in the state (since deterrence can only operate prospectively). Accordingly, again quoting *Atkins*, unless the Connecticut death penalty regime "*measurably* contributes to [the goal of retribution], it 'is nothing more than the purposeless and needless imposition of pain and suffering,' and hence an unconstitutional punishment." *Atkins* also tells us that "[w]ith respect to retribution—the interest in seeing that the offender gets his 'just deserts'—the severity of the appropriate punishment necessarily depends on the culpability of the offender."

Given the weakness of the relationship between the egregiousness of crimes and death sentences—as both experts found—it would be difficult to argue that Connecticut's capital punishment regime "measurably" contributes to the goal of retribution defined in *Atkins*. Without that showing, executions at this point when there is no longer any conceivable deterrence rationale would seem to constitute, in the words of the U.S. Supreme Court, "nothing more than the purposeless and needless imposition of pain and suffering." Judge Sferrazza says nothing about this issue and never cites *Atkins*, *Godrey*, or any other decision dealing with the Supreme Court's narrowing jurisprudence.

C. The Judge Ignores Findings by the State's Expert About the Two Most Potent Influences on Capital Sentencing

1. The Most Potent Influence—Waterbury

Judge Sferrazza's opinion never said *a single word* about the state's expert's finding that the prosecutor in Waterbury treated capital cases drastically differently than prosecutors elsewhere in the state. Indeed, if one looks at the regression that the state introduced to explain capital sentencing (Table 8), my modifications of that regression (Tables 9, 10, and 11), or my own regressions (Tables 6 and 7), the single most important factor by a huge margin influencing which capital-eligible defendants were sentenced to death was whether the crime occurred in Waterbury.

Testimony by the state's expert conceded, as the evidence clearly mandated, that there is a statistically significant disparity in the administration of the death penalty based on geography.[84] Indeed, the state's expert specifically acknowledged the role of the Waterbury prosecutor in generating these large geographic disparities.

> Q But you do know that different state's attorneys in the state follow different courses with respect to charging decisions in capital cases because you refer to that in your report, do you not?
> A Well, yes, I believe that to be true.

---

[84]Michelson Dep. 958:10–21.

> Q And you know, for example, because you refer to it in your report, that Prosecutor Connelly in Waterbury prosecutes more aggressively than other prosecutors in the state, correct?
> A Correct.[85]

2. The Second Most Potent Influence—Gender

In addition to revealing on its face that the most important influence on capital sentencing is that the case is in Waterbury, Table 8 (the revised sentencing model of the state's expert) further indicates that the second most important factor influencing who received a death sentence was whether the defendant was a female. According to the state's expert's preferred specification, the *increase* in the likelihood of receiving any death sentence (sustained or not) for a Waterbury case is 48.1 percentage points (note that is "percentage points" not "percent"), and the *decrease* in likelihood of receiving a sentence for a female defendant, other factors held constant, is 15.1 percentage points. These findings are highly statistically significant—vastly beyond conventional levels.

Testimony by the state's expert at trial made clear that women were treated differently than men in that no woman ever received a sentence of death during the study period: "The evidence of gender difference in sentencing is strong" (October 1, 2012, at p. 152).

Yet the trial judge ruled that gender was not a factor, apparently on the basis of my answer to a single question at trial about my raw summary statistics on capital sentencing (not a regression analysis).

> Q . . . Are you drawing any statistically significant conclusion from the raw data about gender of defendant?
> A No; I'm not.[86]

Ignoring the state's expert's testimony and regression models, the judge then stated:

> No other type of evidence was adduced pertinent to the issue of gender disparity. Consequently, the petitioners cannot prevail on their allegation that the gender of the perpetrator unconstitutionally impacts the death penalty scheme in Connecticut or violates § 53a-46b(b)(1).

D. Concerns with the Holding on Race and Sentencing

I noted above that the judge ignored the overwhelmingly strong evidence of race discrimination on the part of Connecticut prosecutors in capital charging. Instead, he turned to the issue of race discrimination in capital sentencing and stated that he doubted whether, with only nine sustained death sentences (out of 205 death-eligible murders), there were a sufficient number of cases to draw causal inferences about discrimination. The judge then went on to state:

> The uncertainty concerning inferences derived from the small number of death sentences was compounded by Doctor Donahue's [sic] decision to discard three cases in which the death

---

[85]Michelson Dep. 956:5–14.

[86]Trial Transcript, Sept. 12, 2012 at 103.

> penalty was sought and obtained but later overturned on appeal. If one is examining the decisions to pursue the death penalty or to impose that penalty, in order to ascertain if race or some other impermissible factor influenced those decisions, then logically all cases in which the death penalty was sought must be included even though some of those sentences were vacated on appeal because of some legal deficiency. The activities surrounding the pursuit of the death penalty by prosecutors and the judgment that a death sentence ought to be imposed were the critical conduct which needs examination. Postsentencing appellate review is irrelevant when attempting to evaluate the behavior of the decision-makers which did, in fact, produce a death sentence.[87]

In drawing causal inferences about race discrimination, it is certainly appropriate to consider the impact of the limited number of death sentences in Connecticut, but I am not sure that the judge drew the correct conclusion from this admitted data limitation. First, the judge's concern about the small number of death sentences and the need to focus on the prosecutor's decision would suggest the importance of looking at capital charging, which involved far more cases and was unambiguously the product of prosecutorial decision making (unlike the more complex sentencing outcome, which is the product of many other factors). But as we have seen, the judge ignored race and capital charging, where the evidence of race discrimination was overwhelming.

Second, the fact that there is such a small number of cases obviously makes it harder to generate statistically significant results, but what is telling is that such results *were* obtained showing harsher sentencing for minority on white crimes in all my regressions in Tables 6 and 7, as well as in my revised versions of Michelson's sentencing regression (Table 11). In other words, the race effect on sentencing is so strong that even with the small number of nine sustained death sentences statistically significant results are obtained.

Third, the judge objects to my "decision to discard three cases," but I did not discard any death-eligible cases from my analysis. In looking at the sentencing (and charging) outcomes, I included in my regressions all three of the cases the judge references. Perhaps he means to suggest that he is uninterested in the bottom line of who actually ends up with a death sentence, which is what I focused on in my main sentencing tables (Tables 6 and 7).[88] The judge's suggestion, though, that this bottom line is purely the product of appellate review is not correct. In two of the three sentences that were overturned, the prosecutor was

---

[87]In general, the judge was not careful about details, as a few additional examples here and in the remainder of the section will illustrate. (1) Although minor, he misspelled the names of both expert witnesses throughout his decision. (2) The judge was not attentive to the racial definitions used in my regression findings, repeatedly mischaracterizing the precise findings in my tables. For example, he wrote that I found that "A black perpetrator who slew a white victim in Connecticut had a statistically significant higher probability of being charged with capital murder than a white perpetrator who killed a white victim in Connecticut." In fact, it was the state's expert who looked at black defendants. I found that "A MINORITY perpetrator who slew a white victim in Connecticut had a statistically significant higher probability of being charged with capital murder than a MINORITY perpetrator who killed a MINORITY victim in Connecticut." (3) The judge stated that "Doctor Donahue [sic] did not employ the least squares regression method, but preferred to use the logit technique." Although the second half of the sentence is correct, the first is not: I always showed both least squares regression results as well as logit results in my tables.

[88]The issue is not one of discarding a case, but of how one codes the dependent variable for cases that receive a death sentence only to have that sentence later irrevocably rescinded. In my own regressions, I focused on the nine sustained death sentences, but Tables 8 and 9 show the results of modified versions of the state's expert's sentencing regression estimated on all 12 death sentences.

free to seek the death penalty in a new proceeding, but instead decided to accept the sentence of life without possibility of parole (Colon and Courchesne). Looking at the bottom line captures all the decisions made in implementing Connecticut's death penalty regime. Stopping short of the bottom line to focus on which defendants received a death sentence even if later revoked may yield interesting information but it cannot fully capture the ultimate output of the Connecticut death penalty regime.

Fourth, while the statistical significance of race on capital sentencing is clearly stronger for the nine sustained death sentences than for all 12 death sentences, Tables 9 and 11 show in modified versions of Michelson's sentencing regression that the racial disparity in capital sentencing is large and statistically significant in *both* cases. Looking at the state's expert's Table 8 regression still shows a large racial disparity in sentencing using all 12 death sentences (albeit not statistically significant), which indicates that the race discrimination that was unambiguously present at the capital charging stage was not eliminated by the time of sentencing.

E. The Judge Acknowledges the Race Effect and the Likely Reason for It

The judge tried to undermine the statistical showings of the race (and Waterbury effects) by stating that I did not look for the causal explanations lying behind such disparities. But I testified concerning the likely reasons for the race effect, and the judge acknowledged and agreed with my conclusion.

> Indeed, Doctor Donahue [sic] testified that . . . this divergence of outcomes probably reflects the tendency of members of the majority to be more empathetic to majority victims, who resemble themselves, and less sympathetic to minority perpetrators, with whom they identify least.
>
> The court concurs that this potential explanation is the most likely reason why the minority perpetrator/majority victim murder cases have a greater probability of producing a death sentence. But this explanation stems from a psychological phenomenon rather than some flaw created by the legal system and its procedures. That phenomenon would be inherent in any jurisdiction which has a population containing a majority subgroup, no matter what death penalty protocol existed. Again this type of subconscious influence, which manifests in the minority perpetrator/majority victim disparity, is of paramount concern to policy makers but has no bearing on the constitutionality of Connecticut's death penalty system because that disparity does not derive from that system under the holding of *Ricci v. DeStefano*, supra, 587. Therefore, even under the petitioners' argument that the court ought to ignore the *McCleskey* standard for evaluating statistical evidence pertaining to the death penalty and apply the scrutiny used in employment discrimination cases, the petitioners' claim fails with respect to the minority perpetrator/majority victim disparity.

My reading of the above passage is that the judge recognizes that minority defendants accused of killing white victims are treated worse than other defendants for the reason I gave. This would seem to negate the judge's concerns about my regression analysis and interpretation of the results. This interpretation also reveals that the participants in the Connecticut death penalty system, including some of the prosecutors—who unilaterally make capital charging decisions—are engaging in disparate treatment discrimination. As the above passage notes, there would clearly be a remedy for such discrimination if such discriminatory conduct occurred in making employment decisions. But I submit that disparate treatment discrimination—that is, treating a criminal defendant more harshly in

a capital penalty regime *because* of the race of the defendant and the victim—is also unconstitutional.[89]

Note that while the judge seems to argue that if the discrimination is unconscious, then it is legally permissible, this is not true. Treating someone differently *because* of their race is disparate treatment discrimination, regardless of whether one is aware of one's bias. Just as federal employment discrimination law expects employers not to engage in this form of racially discriminatory disparate treatment, I believe that Connecticut's constitution does not permit prosecutors and other participants in the state's capital punishment regime to engage in such racially disparate treatment of death-eligible defendants.

F. The Judge Misinterprets My Regression and Overlooks the State's Expert's Finding on the Effect of Prior Convictions

Further evidence that the judge struggled in dealing with statistical evidence is his statement that "the very small number of cases in which the death penalty occurred may account for the strange, even bizarre, findings which flowed from Doctor Donahue's [sic] regression analysis."

The judge explains that:

> The exceedingly small number of death sentences may also explain the weird finding that capital defendants who have served prison sentences for previous crimes are slightly less likely to receive a later death sentence in Connecticut from 1973 to 2007. Can this outcome mean anything except that the dearth of death sentence cases, when compared to the number of capital murder cases where no death sentence was imposed, produces regression analysis results susceptible to noticeable, but inconsequential, fluctuations? One cannot reasonably infer that the *lack* of a prior prison record, itself, is an aggravator rather than a mitigating circumstance. Such an inference would be absurd.

The judge's statement reveals that he misread my regression results. The strange result for PRIOR PRISON SENTENCES that the judge alludes to is *not* present in my regression tables. Although I use that variable, its estimated effect is always small and utterly statistically insignificant for both charging and sentencing: see Appendix Tables 1 and 2, which show full results for the capital charging and sentencing regressions that include the PRIOR PRISON SENTENCE variable. Looking at the capital sentencing regression (Appendix Table 2), one sees that the logit marginal effect of the PRIOR PRISON SENTENCE variable is estimated to be "–0.000." While that is listed as a negative number, it is really indicating a zero effect and of course it is completely statistically insignificant. This is a type of error that would not be made by someone familiar with the tool of regression, and it may suggest that

---

[89]It may be helpful to distinguish between disparate treatment discrimination, which is unlawful under both employment discrimination law and also under the U.S. Constitution, and disparate impact discrimination, which is unlawful under employment discrimination law but not under the U.S. Constitution. The judge seems to create two categories of disparate treatment discrimination and holds that if the discrimination is unconscious it will treated like disparate impact discrimination and thus not a basis for a finding of a U.S. constitutional violation. But since disparate treatment means treating someone differently *because* of their race, it is irrelevant whether the discriminator understands that he or she is acting because of race. This form of disparate treatment discrimination is uniformly proscribed.

judges involved in trials with statistical expert testimony should either have a special master to consult with them throughout or at least to review their opinions prior to publication.[90]

G. Concerns with the Disregard of the Waterbury Effect on Capital Sentencing

1. The Waterbury Prosecutor Presses for the Death Penalty at a Far Higher Rate than Other Prosecutors

With such overwhelming evidence and testimony from both experts on the impact of the Waterbury prosecutor on capital sentencing, it is a puzzle that the judge reaches a contrary conclusion. Some insight into his thinking comes from his statement that "the disparity concerning Waterbury appeared only as to *sentencing* decisions by the factfinder." But this statement suggests a misunderstanding of all the sentencing regressions presented in this article, for both my specifications (Tables 6, 7, 9, and 11) and that of Michelson (Tables 8 and 10). These regressions focus on all 205 death-eligible cases and explain which among those 205 were sentenced to death. The sentencing disparity in Waterbury is caused by the slightly higher rate of capital charging, followed by the much stronger push for capital felony convictions and for seeking the death penalty for these convictions, as well as a high success rate at the capital sentencing phase. In other words, while the factfinder only comes in at that last step (which seems to be what the judge was focused on), the Waterbury effect captured in the regressions encompasses all those phases.

The judge seems to ignore the fact that both experts were clear that the reason underlying the massive Waterbury effect on capital sentencing was because of the behavior of the former Waterbury State's Attorney John Connelly. Thus, the judge's statement that "[n]o evidence, statistical or otherwise, was presented that sentencers for Waterbury cases were treating the defendants in Waterbury cases more harshly *because* the case arose in the Waterbury area" is quite beside the point. The Waterbury effect originates with the prosecutor, as reflected in the fact that for every one of the six cases in which a capital felony conviction was obtained in Waterbury, the prosecutor took the case to a death penalty hearing. In contrast, for the 60 capital felony convictions that occurred outside Waterbury, the prosecutors brought only 22 to death penalty hearings.

2. The Concern that the Waterbury Effect on Sentencing is the Product of Chance is Misplaced

The judge makes a clearly erroneous statement when he writes: "However, Doctor Donahue [sic] ignores the possibility that this strange result [Waterbury had a high capital sentencing rate] was merely a random distribution stemming from the small number of death sentences, viz. nine out of more than 200 capital cases." This statement underscores the difficulty that nonexperts have in assessing statistical results because, of course, the very

---

[90]While the judge incorrectly tried to impeach my *sentencing* regression by looking at the "prior prison sentence" variable, he may have been led astray by the *state's expert's* odd finding that prior convictions lead to a *lower* likelihood of being *capitally charged*. The state's expert's corrected "ultimate winner" regression—Table 5—shows that prior convictions lower the likelihood of being capitally charged, with an enormous *t* statistic of 4.24.

purpose of conducting a regression analysis is to test for the possibility that patterns in the data are merely the product of chance. The regressions presented by both expert witnesses tested for that possibility (that is exactly what the test of statistical significance is designed to do) and rejected the likelihood that this pattern was caused by chance. All the regressions introduced by both experts showed that the single most important factor by a huge margin influencing which capital-eligible defendant is sentenced to death is whether the crime occurred in Waterbury.

Moreover, the judge states that if the outcome of one or two cases were changed, the Waterbury result might disappear. But recall that Courchesne and Colon were Waterbury cases that I treated as *not* having a death sentence (since they are no longer on death row and I was looking at the bottom line). The judge said that the race disparities in sentencing would be reduced by including as capital sentences the three defendants who had been removed from death row at the end of the legal process in their cases. But if the judge is to argue that looking at the sentencing rate based on all 12 death sentences is appropriate in order to weaken the race effect, then he must acknowledge—as a comparison of Tables 8, 9, 10, and 11 shows—that the regression on all 12 death sentences also simultaneously *strengthens* the Waterbury effect. Indeed, if we run Michelson's sentencing regression on the nine sustained death sentences (Table 10) as well as on all 12 death sentences (Table 8), one sees that while both estimated Waterbury effects are massive and highly statistically significant, the Waterbury effect in the regression on all 12 death sentences is truly gargantuan.

This exercise also illustrates that the judge's concern that changing one or two death sentences might eliminate the Waterbury sentencing effect is clearly *not* true since the Waterbury effect is too strong to be influenced by such changes (as shown by the fact that the Waterbury effect strongly persists even when I coded the two Waterbury death sentences of Colon and Courschesne as nondeath sentences when their death sentences were eliminated). Indeed, the p value of the regression tells us exactly what the judge speculates about: the probability that the huge Waterbury effect on capital sentencing is caused by chance. In Table 8, this p value is 0.000, which means that the possibility that the Waterbury effect was caused by chance is essentially zero.

3. Prosecutorial Zeal in Waterbury

In addition to venturing that the Waterbury effect was caused by chance—a claim belied by the statistical analysis of both experts—Judge Sferrazza suggested alternative theories based on the Waterbury prosecutor's alleged greater experience or skill.

> [The petitioners] fail[] to consider the very plausible possibility that the prosecutors for the Waterbury district possessed greater experience and skill and/or greater willingness to devote resources with respect to capital cases. Perhaps, that prosecutorial staff was more adept at choosing which cases to pursue to the fullest extent possible; at selecting amenable jurors to hear these types of cases; at effectively presenting evidence in such cases; and/or in making persuasive arguments regarding aggravation and mitigation.[91]

---

[91] *In re Death Penalty*, 2013 WL 5879422, at *20.

But a recent paper that looks at all death-eligible cases from 1984 (the first year of Waterbury State's Attorney John Connelly's tenure) to 2007 in the cities of Hartford, New Haven, Waterbury, and Fairfield undermines the claim of greater Connelly experience.

> During this time period, eleven different state's attorneys from those four cities successfully obtained a capital conviction and proceeded to the penalty trial phase. During his tenure as Waterbury State's Attorney (1984–2011), Connelly had on average 13.4 years of experience at the time of sentencing in cases where he secured a capital conviction and went to the penalty trial phase. The other ten prosecutors had on average 15.5 years of experience.[92]

In considering Judge Sferrazza's speculation that the Waterbury prosecutor was "more skillful [or] adept" "at effectively presenting evidence in such cases[] and/or in making persuasive arguments regarding aggravation and mitigation,"[93] it may be useful to consider the serious doubts about his conduct that have been raised over the years by colleagues, judges, and law enforcement officials. Twice the Connecticut Supreme Court commented disapprovingly on his unprofessional manner during the penalty phase of a capital punishment case.[94] During the penalty phase of the trial of current death row inmate Richard Reynolds, Connelly "made irrelevant and prejudicial references to the family of Williams [the deceased] during voir dire, cross-examination and closing arguments; invited the jury, during closing arguments to ignore the legal standards governing the determination of when to impose the death penalty; and injected his personal opinions and beliefs into his closing arguments."[95]

Connelly improperly argued to the jury that "based on my oath and your oath and the court's oath, the death penalty must be imposed" and denounced the defendant's offer of mitigating evidence of an abusive childhood as "emotional blackmail."[96] A majority of the Connecticut Supreme Court called his conduct in injecting his personal opinions into the penalty trial and in personally vouching for a witness as "clearly inappropriate," noting that "the state's attorney violated [a] well established prohibition."[97]

The Connecticut Supreme Court majority did not reverse the Reynolds death sentence, but it did register strong disapproval of Connelly's tactics.

> We acknowledge that the conduct of the state's attorney . . . did not meet the standard of professionalism required of prosecutors in this state. We strongly disapprove of that conduct and, in particular, the state's attorney's interjection of his personal opinion. The improprieties are

---

[92]Cameron Ormsby, What's the Matter with Waterbury? Geographic Bias and the Death Penalty (Apr. 2014).

[93]*In re Death Penalty*, 2013 WL 5879422, at *20.

[94]State v. Rizzo, 833 A.2d 363 (Conn. 2003); State v. Reynolds, 836 A.2d 224, 333 (Conn. 2003).

[95]State v. Reynolds, 836 A.2d 224, 333 (Conn. 2003).

[96]Id. at 348, 362.

[97]Id. at 358.

> especially disturbing in light of the fact that the state's attorney is an experienced litigator who has successfully prosecuted numerous cases, including several death penalty cases.[98]

Indeed, Justice Katz in dissent provided further reasons for concern over Connelly's behavior, citing to nine other higher court reprimands that Connelly had received in his career for professional misconduct.[99]

> The state's attorney's behavior in this case was calculated to undermine the legitimacy of the defendant's mitigating factors on the basis of a wholly irrelevant consideration, namely, the extent to which defense counsel personally believed in the merits of the defendant's case. Additionally, the conduct of the state's attorney improperly was "directed to passion and prejudice" and "calculated to incite an unreasonable and retaliatory sentencing decision, rather than a decision based on a reasoned moral response to the evidence." *Lesko v. Lehman*, 925 F.2d 1527, 1545 (3d Cir. 1991). By injecting inflammatory emotional considerations, expressing his personal opinions about the merits of the defendant's case, vouching for the credibility of the state's witnesses and injecting his oath into the jury's deliberative process, the state's attorney invited the jury to reach a verdict, in a capital case, based on factors outside of the evidence. This invitation allowed an improper and, indeed, unconscionable diminishment of the jury's responsibility. . . .
>
> Past experience has demonstrated that merely to reprimand, *once again*, a state's attorney who engages in deliberate misconduct that undermines the fairness of a trial does not sufficiently convey disapproval of those tactics. I would conclude, therefore, that nothing short of reversal will deter similar misconduct in the future.[100]

Shortly after its decision in *Reynolds*, the Connecticut Supreme Court heard an appeal from death row inmate Todd Rizzo, who raised similar complaints concerning Connelly's behavior during the penalty phase of Rizzo's trial.[101] The court was again highly critical of Connelly's "blatant and egregious" misconduct: "we further conclude that these numerous instances of prosecutorial misconduct in rebuttal argument deprived the defendant of due process of law . . . they were severe in their wrongfulness . . . furthermore, they were frequent, considering the state's attorney's entire final argument takes up only twenty-four pages."[102]

Indeed, controversy has often swirled around Connelly, as indicated in a news article reflecting on his prosecution of another death row inmate:

> in 1999, three Supreme Court justices said in a dissenting opinion that they believed race played a role when Sedrick Cobb, who is black, was sentenced to death for the 1989 rape and murder of a Waterbury woman. Connelly prosecuted that case. The court upheld Cobb's death sentence 4–3.

---

[98]Id. at 363.

[99]Id. at 392 (Katz, J., dissenting).

[100]Id. at 394 (emphasis in the original).

[101]State v. Rizzo, 833 A.2d 363, 427 (Conn. 2003).

[102]Id.

> "The rush to snuff out the life of the defendant will only deepen African-Americans' perception of racism in this court, in the judicial system and in society," wrote then-Justice Robert Berdon.[103]

In 2010, an FBI investigation into the relationship between Connelly and Waterbury defense attorney Martin Minella revealed that Minella paid for several trips to Las Vegas and Florida with Connelly.[104] The investigation revealed other questionable gifts that raised questions about whether Connelly's prosecutorial judgments were being influenced inappropriately. Rather than face a hearing before the state Criminal Justice Commission, Connelly resigned on January 7, 2011.[105] Norm Pattis, a Waterbury trial attorney (who defended Connelly's friend Martin Minella in the ensuing corruption charges), wrote in his political eulogy for Connelly that "his almost combative glee in sending people to the death house troubled me."[106] It is this zest for the death penalty untempered by good judgment, rather than any commendable prosecutorial talent, that establishes the basis for the claim that the Waterbury effect on capital sentencing constitutes an arbitrary factor unrelated to the facts of any case, generating an impermissible geographical disparity in the administration of the Connecticut death penalty.

VII. Conclusion

The findings documenting the harsher treatment that the Connecticut death penalty system inflicts on cases with minority defendants and white victims, and the vastly higher pattern of death sentencing in Waterbury, virtually leapt out of the raw aggregated data, as highlighted in Table 2. The more sophisticated regression results overwhelmingly confirm what we saw in the simple tables and figures: race and geography substantially influence capital outcomes in Connecticut. These results emerge from regression models that control for the types of murders involved, the number of victims, the egregiousness of the crime (measured in two primary distinct ways based on the evaluation of 18 coders, as well as with many variations in specification and disaggregation into component elements), various aggravating factors that might attend the crime, the gender of the defendant, whether the crime is a stranger murder, the record of prior prison sentences of the defendant, or whether we drop out cases that the state's expert argues should be omitted. These findings are statistically significant and robust, and remain so even when we control for variables designed to reflect the strength of the evidence in the case. The robustness checks in Tables 4 and 7 confirm that the strong racial disparities in capital charging and sentencing

---

[103]Associated Press, Former Waterbury State's Attorney John Connelly Dies (Sept. 24, 2012).

[104]Id.

[105]Id.

[106]Norm Pattis, King of Death Row Toppled, Norm Pattis Blog (Jan. 15, 2011), <http://www.pattisblog.com/index.php?article=King_Of_Death_Row_Toppled_2940>.

are unaffected by complaints regarding the universe of death-eligible cases, my egregiousness scores, and control variables.

The findings of racial disparities in the Connecticut death penalty regime are similar to findings of racially disparate results in capital outcomes across the nation. Specifically, Blume et al. find significant disparities based on race of defendant and race of victim in their analysis of death row populations in 31 states from 1977 through 1999.

> Death row's racial disparity, however, is not the result of race-neutral application of the death penalty or a perverse form of affirmative action to favor black defendants. Rather, a racial hierarchy clearly exists. Black defendants who murder white victims receive death sentences at the highest rate; white defendants who murder white victims receive death sentences at the next highest rate; and black defendants who murder black victims receive death sentences at the lowest rate. The hierarchy stems in part from prosecutors' reluctance to seek death in cases involving black victims, and eagerness to seek death in cases involving black defendants and white victims.[107]

Indeed, in other major studies examining the administration of the death penalty in specific states, a repeated theme emerges concerning the harshness of the system with respect to the racial configuration of the defendant and the victim. Summarizing the findings of the Baldus study of 2,484 murder cases in Georgia, the U.S. Supreme Court noted that "the study indicates that black defendants, such as McCleskey, who kill white victims have the greatest likelihood of receiving the death penalty."[108]

In addition, the authors of the empirical study of the Maryland death penalty system that had been commissioned by Maryland Governor Parris Glendening concluded that "[o]ffenders who kill white victims, especially if the offender is black, are significantly and substantially more likely to be charged with a capital crime (state's attorney decides to file a notification to seek the death penalty). . . . These effects persist even in the presence of what we think are very rigorous controls for relevant case characteristics. Moreover, while these effects do not appear at other, later decision making points in the capital sentencing process they are generally not corrected."[109]

This article also presents evidence concerning the egregiousness of the 205 death-eligible cases in Connecticut and shows that while the harshest treatment has been reserved for minority defendants who kill whites, it is actually white on white crimes that are deemed by race-blind coders to be the most egregious on average. Moreover, in part because of the strong racial, geographic, and gender influences on capital outcomes in Connecticut, the state's death penalty system has not been successful at limiting the death penalty within the class of death-eligible crimes to the worst of the worst offenders or establishing that there is a principled basis for distinguishing the few death-eligible defendants who will be sentenced to death in Connecticut from the many who will not.

---

[107]John Blume, Theodore Eisenberg & Martin T. Wells, Explaining Death Row's Population and Racial Composition 1 J. Empirical L. Stud. 167 (2004).

[108]McCleskey v. Kemp at 287.

[109]Raymond Paternoster et al., An Empirical Analysis of Maryland's Death Sentencing System with Respect to the Influence of Race and Legal Jurisdiction," Final Report, 2003 at 36–37.

Appendix

Table A1: Explaining Capital Charging in 205 Connecticut Death-Eligible Cases, 1973–2007; Adding Controls for Stranger Murders, Prior Prison Sentence Imposed, and Strength of Evidence (Row M, Table 4)

Dependent Variable = Capital Charges|Death Eligible

	1	*2*	*3*	*4*	*5*	*6*
Explanatory Variables	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*
Defendant white/victim white	1.081**	0.181	0.162**	0.981**	0.169	0.148*
	(0.485)		(0.076)	(0.464)		(0.077)
Defendant minority/victim white	2.102**	0.260	0.259**	2.146**	0.270	0.274**
	(0.719)		(0.097)	(0.740)		(0.099)
Defendant white/victim minority	0.118	0.021	0.013	–0.031	–0.006	–0.005
	(1.055)		(0.198)	(1.247)		(0.219)
Composite egregiousness	–0.681**	–0.124	–0.098**			
	(0.248)		(0.038)			
Overall egregiousness				–0.824*	–0.153	–0.115*
				(0.442)		(0.069)
Special aggravating factors	0.276**	0.050	0.040**	0.250*	0.047	0.037*
	(0.130)		(0.019)	(0.129)		(0.020)
Waterbury	0.588	0.092	0.085	0.426	0.071	0.065
	(0.809)		(0.127)	(0.919)		(0.143)
Pre-1998 cases	1.119**	0.204	0.181**	0.986**	0.183	0.168**
	(0.436)		(0.073)	(0.413)		(0.073)
Murder for hire	0.572	0.092	0.129	0.793	0.123	0.158
	(0.794)		(0.133)	(0.806)		(0.137)
Kidnapped	–0.203	–0.038	–0.076	–0.225	–0.043	–0.083
	(0.561)		(0.091)	(0.549)		(0.091)
Sexual assault	0.742	0.116	0.130	0.731	0.117	0.123
	(0.888)		(0.131)	(0.881)		(0.131)
Multiple victims	1.937**	0.315	0.283**	1.424**	0.243	0.207**
	(0.587)		(0.086)	(0.519)		(0.080)
Under 16	2.015**	0.267	0.318**	1.738**	0.246	0.273**
	(0.684)		(0.111)	(0.681)		(0.110)
Stranger	–0.047	–0.009	0.001	0.020	0.004	0.008
	(0.463)		(0.078)	(0.450)		(0.078)
Prior prison sentence imposed	–0.049	–0.009	0.022	–0.008	–0.002	0.018
	(0.419)		(0.067)	(0.412)		(0.067)
Confess	0.795*	0.150	0.102	0.717*	0.137	0.094
	(0.414)		(0.071)	(0.407)		(0.071)
Self-incrimination to 3rd party	–0.021	–0.004	–0.017	0.020	0.004	–0.013
	(0.385)		(0.066)	(0.383)		(0.066)
More than circumstantial evidence	–0.294	–0.051	–0.044	–0.326	–0.057	–0.056
	(0.604)		(0.103)	(0.571)		(0.104)
No defense asserted	1.440**	0.227	0.210**	1.417**	0.228	0.207**
	(0.505)		(0.066)	(0.499)		(0.067)
Constant	2.551		0.885**	0.258		0.553**
	(1.814)		(0.286)	(1.380)		(0.230)
R^2 or pseudo R^2	0.242	0.242	0.257	0.223	0.223	0.239
N	190	190	190	190	190	190

Notes: Robust standard errors in parentheses, ** = $p < 0.05$, * = $p < 0.10$. The omitted category from the race of defendant and victim variables is defendant minority/victim minority. In this and the following table, Columns 1 to 3 are identical to Columns 4 to 6 in all but one respect—Columns 1 to 3 use the Composite Egregiousness measure (4–12), and Columns 4 to 6 use the Overall Egregiousness measure (1–5). As one can see, the basic findings of the table are unaffected by the choice of egregiousness scale.

Table A2: Explaining Sustained Death Sentences in 205 Connecticut Death-Eligible Cases, 1973–2007; Adding Controls for Stranger Murders, Prior Prison Sentence Imposed, and Strength of Evidence (Row M, Table 7)

Dependent Variable = Sustained Death Sentences|Death Eligible

	1	*2*	*3*	*4*	*5*	*6*
Explanatory Variables	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*	*Logit*	*Logit Marginal Effects*	*Linear Prob. Model*
Defendant minority/victim minority	–0.675	–0.001	–0.013	–0.606	–0.000	–0.008
	(2.342)		(0.027)	(2.201)		(0.028)
Defendant minority/victim white	4.343**	0.039	0.084	4.316**	0.028	0.085
	(1.913)		(0.054)	(1.619)		(0.054)
Composite egregiousness	0.144	0.000	–0.002			
	(0.411)		(0.014)			
Overall egregiousness				1.786**	0.001	0.014
				(0.751)		(0.028)
Special aggravating factors	0.484	0.001	0.008	0.391	0.000	0.006
	(0.364)		(0.008)	(0.254)		(0.009)
Waterbury	7.396**	0.564	0.437**	6.739**	0.336	0.429**
	(1.318)		(0.164)	(1.606)		(0.166)
Pre-1998 cases	1.085	0.001	0.009	1.319	0.001	0.007
	(1.081)		(0.025)	(1.055)		(0.025)
Murder for hire	7.434**	0.495	0.099	7.347**	0.399	0.103
	(1.886)		(0.075)	(2.183)		(0.074)
Kidnapped	1.951	0.004	0.049	1.772	0.002	0.046
	(1.872)		(0.047)	(1.932)		(0.047)
Sexual assault	2.234*	0.007	0.063	1.193	0.002	0.055
	(1.286)		(0.052)	(1.275)		(0.052)
Multiple victims	2.788	0.006	0.026	2.347	0.003	0.024
	(2.473)		(0.051)	(1.862)		(0.055)
Under 16	2.857	0.010	0.044	2.648	0.006	0.035
	(1.752)		(0.049)	(1.670)		(0.046)
Stranger	0.344	0.000	0.024	0.817	0.001	0.024
	(1.229)		(0.031)	(1.099)		(0.031)
Prior prison sentence imposed	–0.168	–0.000	–0.008	–0.407	–0.000	–0.009
	(1.089)		(0.025)	(1.048)		(0.025)
Confess	–1.133	–0.001	–0.031	–1.251	–0.001	–0.033
	(1.923)		(0.028)	(2.000)		(0.029)
Self-incrimination to 3rd party	1.546**	0.002	0.005	1.584**	0.002	0.004
	(0.747)		(0.023)	(0.721)		(0.023)
More than circumstantial evidence	1.134	0.001	–0.006	0.527	0.000	–0.004
	(2.962)		(0.033)	(2.236)		(0.035)
No defense asserted	–1.046	–0.001	–0.012	–0.692	–0.001	–0.013
	(0.946)		(0.031)	(1.002)		(0.031)
Constant	–15.114**		–0.037	–19.515**		–0.092
	(3.344)		(0.134)	(3.857)		(0.122)
R^2 or pseudo R^2	0.539	0.539	0.278	0.560	0.560	0.279
N	190	190	190	190	190	190

NOTES: Robust standard errors in parentheses, ** = $p < 0.05$, * = $p < 0.10$. The omitted category from the race of defendant and victim variables is all white defendants. Columns 1 to 3 are identical to Columns 4 to 6 in all but one respect—Columns 1 to 3 use the Composite Egregiousness measure (4–12), and Columns 4 to 6 use the Overall Egregiousness measure (1–5). As one can see, the basic findings of the table are unaffected by the choice of egregiousness scale.