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1511 Third Avenue, Suite 701

August 25, 2016

Commissioner Narda Pierce
Washington State Supreme Court
Temple of Justice
PO Box 40929
Olympia, Washington 98504

RE: *State v. Gregory*, No. 88086-7

Dear Commissioner Pierce:

Pursuant to your ruling of May 20, 2016, please find enclosed the response of Professor Katherine Beckett and Ms. Heather Evans to the State's critique of *The Role of Race in Washington State Capital Sentencing, 1981-2014.*

Sincerely,

/s Lila J. Silverstein
/s Neil M. Fox

Attorneys for Allen Gregory

IN THE SUPREME COURT OF THE STATE OF WASHINGTON

STATE OF WASHINGTON, Respondent, v. ALLEN GREGORY, Appellant.	)))))))))	NO. 88086-7

DECLARATION OF DOCUMENT FILING AND SERVICE

I, MARIA ARRANZA RILEY, STATE THAT ON THE 25TH DAY OF AUGUST, 2016, I CAUSED THE ORIGINAL **COVER LETTER RE: RESPONSE TO THE STATE'S EVALUATION (CRITIQUE)** TO BE FILED IN THE **WASHINGTON STATE SUPREME COURT** AND A TRUE COPY OF THE SAME TO BE SERVED ON THE FOLLOWING IN THE MANNER INDICATED BELOW:

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[X] NEIL FOX LAW OFFICES OF NEIL FOX, PLLC [nf@neilfoxlaw.com]	( ) ( ) (X)	U.S. MAIL HAND DELIVERY E-MAIL

SIGNED IN SEATTLE, WASHINGTON THIS 25TH DAY OF AUGUST, 2016.

X_____

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WASHINGTON APPELLATE PROJECT

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RESPONSE TO *EVALUATION OF 'THE ROLE OF RACE IN WASHINGTON STATE CAPITAL SENTENCING, 1981-2014'* BY NICHOLAS SCURICH

KATHERINE BECKETT, PH.D, AND HEATHER EVANS, M.A.
UNIVERSITY OF WASHINGTON

AUGUST 25, 2016

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I. EXECUTIVE SUMMARY

Our report, *The Role of Race in Washington State Capital Sentencing, 1981-2014,* showed that Washington State juries are significantly more likely to impose death sentences in aggravated murder cases involving death-eligible Black defendants than in similar cases involving non-Black defendants. Among cases in which death notices were filed and special sentencing proceedings occurred, juries imposed death in 38.8 percent of the cases involving non-Black defendants, but 64.3 percent of the cases involving Black defendants. Our statistical regression analyses indicated that this stark racial disparity persisted after relevant case characteristics were taken into account. *Specifically, the regression results showed that Black defendants are more than four times more likely than similarly situated non-Black defendants to be sentenced to death.*

Dr. Nicholas Scurich of Park Dietz & Associates submitted an evaluation of our report. In it, Dr. Scurich offers three main critiques of our analysis and findings. First, he argues that the data are unreliable. Second, he contends that our regression results are invalid. Finally, he suggests that we engaged in unethical conduct in order to produce misleading results. In this response to his critique, we show that these claims are incorrect. Specifically, we show that the data upon which we rely are reliable; that the regression results are consistent across a variety of model specifications, including those Dr. Scurich recommends; and that the research process was conducted in a valid and ethical manner.

Dr. Scurich did accurately identify three data entry errors. The regression results presented here correct for these and continue to show that Black defendants are more than four times more likely than other defendants to be sentenced to death after controlling for relevant case characteristics. Dr. Scurich was unable to replicate these findings primarily because he committed two important errors, both of which caused a significant number of cases to be dropped from his analyses.

Below, we address his claims regarding the reliability of the data, the regression results, and the research process.

A. Data Reliability

In questioning the reliability of the data, Dr. Scurich reveals a fundamental misunderstanding of their nature and origins. Dr. Scurich argues that the absence of discussion regarding how we coded variables such as "extensive publicity" and numeric indicators of inter-coder reliability render our data unreliable (see pp. 6-7 of his critique). But measures of inter-coder reliability are only appropriate when coders assign numeric values to qualitative or subjective

phenomena.[1] In our study, the data entry assistants were simply entering the information provided by judges on trial reports into an Excel spreadsheet. For example, the trial reports include the question: "Was there extensive publicity in the community concerning this case?" This question was followed by checkboxes for "yes" and "no." Our assistants simply recorded judges' responses.[2] For this reason, measures of inter-coder reliability are not required or appropriate.

Moreover, Dr. Scurich incorrectly claims that there are "redundancies" in the data. It is true that three defendants had second special sentencing proceedings associated with the same underlying crime and that these second trials are included in our analyses. However, this is appropriate because the unit of analysis in our study is the outcome (specifically, the filing of a death notice or the imposition of a death sentence), not the defendant. The three cases that Dr. Scurich described as redundant and (sometimes) removed from his analyses involved defendants (including Mr. Gregory) who had second sentencing hearings that involved newly constituted juries and different case characteristics. In Mr. Gregory's case, for example, the number of mitigating circumstances and the number of prior convictions were different in the two hearings. In addition, Mr. Gregory's trials were separated by eleven years and involved different juries and defense attorneys. For these reasons, where defendants had second sentencing proceedings, we included both trials in our analyses.

Dr. Scurich also emphasizes that he cannot verify that the data set is inclusive of all death-eligible cases (see p. 3 and p. 6 of his critique). The numbers are easily verified. As noted, Trial Report numbers 1- 331 had been filed in the Washington Supreme Court through May of 2014, and these form the basis of the data set used in the study.[3]

Finally, Dr. Scurich identified three data entry errors, all which have been corrected in the analyses provided below. As these results show, correcting these had no impact on the findings regarding the significance of the race of the defendant. Moreover, although all data sets may contain isolated inaccuracies due to data entry errors, we took active steps to minimize these. Specifically, we trained two coders who cross-checked their work to resolve any discrepancies. These data coders were not informed of the purpose of our study. If any data entry errors remain, they are isolated and non-systematic.

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[1] Tinsley, H. E., & Brown, S. D,, eds., HANDBOOK OF APPLIED MULTIVARIATE STATISTICS AND MATHEMATICAL MODELING (Elsevier

[2] The sole exception to this was the coding of mitigating circumstances, which did require legal expertise to interpret. We discuss the coding of this variable on p. 10 and in footnote 19 of this response.

[3] See our report at 13 and the Codebook at 3.

B. RELIABILITY OF THE REGRESSION RESULTS

The regression results presented in our report showed that juries are more than four times more likely to impose death sentences in cases involving Black defendants than in cases involving similarly situated non-Black defendants. After correcting the three data entry errors identified by Dr. Scurich, the regression analyses continue to indicate that this is the case, contrary to Dr. Scurich's claim. Moreover, the race of defendant effect is robust (consistent) across a variety of model specifications, including those recommended by Dr. Scurich.

Dr. Scurich fails to obtain these results because he committed two important errors in conducting his regression analyses. These errors include:

- **Failure to run the analyses with appropriate data transformations.** As we stated on p. 19 and Appendix C of our report, we logged prior convictions, mitigating circumstances, and per capita revenue because these variables showed signs of skew, as is standard practice.[4] Dr. Scurich only did so in one of his "tests." In the one instance in which he did transform the variables in this manner, he omitted 22 cases that would otherwise have been included in the analysis without an explanation of why he did this or which cases were dropped.[5] It appears that Dr. Scurich dropped all cases in which defendants had no prior convictions and/or no mitigating circumstances.[6]

- **Improper measurement of victim race.** Although claiming to control for victim race, Dr. Scurich instead included variables for White Defendant with White Victim(s) (48 cases); Black Defendant with White Victim(s) (10 cases); and Black Defendant with Black Victim(s) (two cases).[7] Structuring victim race in this manner results in dropping 16 cases that would otherwise be included in the analysis (all cases in which either the defendant or victim is neither Black nor White, and all cases in which there are multiple victims of different races).[8] We show that when victim race is measured in a way that does not result in dropping large numbers of cases that can otherwise be included in the analysis, and the data are transformed as is appropriate, Black defendants remain more

[4] See Agresti, A. and B. Finlay, STATISTICAL METHODS FOR THE SOCIAL SCIENCES, 3rd Ed (Upper Saddle, NJ: Prentice Hall, 1997) at 561.

[5] See Scurich critique, Appendix A7ii, raw output "Case Processing Summary" at p. 57.

[6] See p. 29 and p. 73 for a full explanation of why we suspect this is the case.

[7] See Scurich critique, Appendix B2, raw output "Categorical Variables Codings" at p. 66.

[8] See Scurich critique, Appendix B2, raw output "Case Processing Summary" at p. 66.

than four times more likely to receive the death penalty than similarly situated non-Black defendants.[9]

In addition, Dr. Scurich asserts that Black defendants should be compared to White Defendants rather than to non-Black defendants and that when this is done, the race of defendant effect disappears. However, his results are incorrect as a result of the errors noted above. In this response, we show that the regression results obtained when Black defendants are compared specifically to White defendants and these errors are avoided indicate that Black defendants are 4.7 times more likely than similarly situated White defendants to receive the death penalty. We also show that inclusion of victim and county characteristics in the model does not meaningfully reduce the size and significance of the effect of the race of the defendant. Rather, the regression results consistently show that Black defendants are more than four times more likely than other similarly situated defendants to be sentenced to death.

C. RELIABILITY OF THE RESEARCHERS AND RESEARCH PROCESS

Dr. Scurich strongly implies, and at times asserts, that our analytic and methodological decisions were selected in order to produce (misleading) results indicating that the race of the defendant matters in capital sentencing. For example, Dr. Scurich writes that "... it seems obvious that the regression models were configured opportunistically in order to achieve 'statistical significance'" (p. 95). This is untrue.

To support his allegation, Dr. Scurich cites the recent American Statistical Association's (ASA) statement on p-values[10] that criticizes p-hacking – or "cherry-picking" – of significant findings. We absolutely agree that this practice should be avoided, which is why we engaged in model testing (or what Dr. Scurich calls sensitivity analysis) in order *to ensure that the race of defendant effect is robust (consistent) across a variety of regression models.* As described in our report, we modeled the jury decision-making process in many ways, testing numerous variables in order to determine whether defendant race remained consistently significant across many

[9] Dr. Scurich also used an inappropriate dependent variable in analyses of sentencing outcomes that included three defendants who were ineligible for the death penalty because legal rulings precluded special sentencing proceedings. See Scurich critique, Appendix A6i, raw output "Notes" listing dependent variable as "DP_Death" at page 46. The correct dependent variable should be "DP_Sentence." The difference between these two variables is addressed in the Codebook at pages 3, 9, and 52. The Codebook was provided to Dr. Scurich along with the raw data. However, this error does not explain his inability to replicate our results, as the three additional cases he included were all automatically excluded by the software program because they include variables for which information is missing.

[10] Ronald L. Wallerstein and Nicole A Lazaar, *The ASA's Statement on P-Values: Context, Process and Purpose*, THE AMERICAN STATISTICIAN 70, 2: 129-133 (2016).

model variants (see pp. 17, 18, and 29 of our report). We provided the results of many of these tests in the body and in Appendix E of our report.

In light of Dr. Scurich's allegation that we engaged in "p-hacking", we again present the results of numerous alternative statistical models in the body of this document, Appendix A, and Appendix C. The unaltered statistical output associated with these models is also shown in Appendix C.[11] These results clearly show that the finding regarding the significance of the race of the defendant in jury decisions to impose death is robust (consistent) across a variety of model specifications, including those Dr. Scurich deems essential. In fact, we present the results of thirteen different models here (twelve in the body of the report and another in Appendix A). The odds ratios associated with these models consistently indicate that Black defendants are more than four times more likely than other similarly situated defendants to be sentenced to death. The p-values associated with the coefficients range from .015 to .053.

Dr. Scurich also criticizes our inclusion of the $p < .1$ threshold in the discussion and interpretation of the regression results. Researchers use p-values (and confidence intervals) to assess the significance of the regression coefficients. However, p-values are most important when regression techniques are used to assess the validity of generalizing from a sample to other populations. In our study, the data include *all* Washington State aggravated murder cases adjudicated from 1981 to May of 2014 for which Trial Reports are available, not a sample of them. In other words, the data consist of the population rather than a sample of that population. Under such circumstances, the direction and size of the coefficients and magnitude of the odds ratios are most important, and p-values are less important.[12]

Moreover, as we will show, inclusion of the $p < .1$ threshold is standard practice where hypotheses are directional.[13] We are unaware of any studies published after 1990 that find that White defendants are significantly more likely than similarly situated Black or other defendants

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[11] We did not provide the raw statistical output in our report because it is not standard practice to do so. We do so here only to show that Dr. Scurich's allegation that we engaged in p-hacking is unfounded. We did not provide this output to Dr. Scurich himself because he only requested the datafile and codebook.

[12] Alberto Abadie Susan Athey Guido W. Imbens Jeffrey M. Wooldridge, FINITE POPULATION CAUSAL STANDARD ERRORS, Working Paper 20325 http://www.nber.org/papers/w20325.

[13] Pillemer, David, *One-versus Two-Tailed Hypothesis Tests in Contemporary Educational Research*, EDUCATIONAL RESEARCHER, 20, 9: 13-17 (1991); Ringwalt, C., Paschall, M. J., Gorman, D., Derzon, J., & Kinlaw, A., *The use of one-versus two-tailed tests to evaluate prevention programs*, EVALUATION & THE HEALTH PROFESSIONS 34, 2: 135-150 (2011); Agresti, A. and B. Finlay, *One-sided alternative hypotheses*, STATISTICAL METHODS FOR THE SOCIAL SCIENCES (Upper Saddle, NJ: Prentice Hall) pp. 165-166 (1997, 3rd edition).

to receive the death penalty, and many studies find the opposite.[14] For this reason, it is consistent with standard practice to test a directional hypothesis that predicts that if the race of the defendant matters, it is Black defendants who will be more likely to be sentenced to death, and therefore to include the $p < .1$ threshold. Moreover, other studies of capital sentencing that have been peer-reviewed and published in highly respected journals also include the $p < .1$ threshold.[15]

We therefore maintain that inclusion of the $p < .1$ threshold for assessing statistical significance is appropriate for this study. We also note, however, that the p-values reported here and in our report fall well below this threshold, suggesting higher levels of statistical significance. For example, the primary model we presented in our report showed a p-value of .055 (see p. 43). And, contrary to Dr. Scurich's allegation of p-hacking, ten of the thirteen models we present in this document include p-values that fall below the .05 threshold Dr. Scurich prefers.[16] The range across all models was .015 to .053.

Dr. Scurich also cites the ASA statement to argue that we over-emphasized p-values and inappropriately failed to provide confidence intervals that show that the regression results are unreliable (see p. 23 of his critique). This argument is invalid, for several reasons. First, reporting p-values rather than confidence intervals remains standard practice in both sociology and criminology.[17] Second, the discussion in our report emphasized the direction and substantive meaning of the coefficients (i.e. that Black defendants are more than four times likely to receive a death sentence than similarly situated non-Black defendants) rather than the p-values associated with these odds ratios and the underlying coefficients (see, for example, p. 30 and 33 of our report). This is appropriate given that we analyze the universe of capital cases adjudicated in our time period rather than a sample of them. Third, and most importantly, use of a 95 percent confidence interval (which Dr. Scurich utilizes) is inappropriate when the $p < .1$ threshold is used. Instead, when directional hypotheses are tested, 90 percent confidence

[14] See pages 5-12 or our report for an extensive literature review that supports this conclusion.

[15] See David C. Baldus, Catherine M. Gross, George Woodworth and Richard Newell, *Racial Discrimination in the Administration of the Death Penalty: The Experience of the United States Armed Forces (1984-2005)*, JOURNAL OF CRIMINAL LAW & CRIMINOLOGY 101, 4: 1227-1336 (2012); John Donahue III, *Empirical Evaluation of the Connecticut Death Penalty System Since 1973: Are There Unlawful Racial, Gender and Geographic Disparities?* JOURNAL OF EMPIRICAL LEGAL STUDIES 11, 4: 637-96 (2014).

[16] We present the results twelve models in the body of this report and another very parsimonious model in Appendix A.

[17] See footnote 81 on page 48 of this document.

intervals should be utilized.[18] In what follows, we therefore present 90 percent confidence intervals which consistently indicate that the regression coefficients are statistically significant.

D. Conclusion

Dr. Scurich's argument that our data, analyses and regression results are unreliable is incorrect. In fact, the data are reliable and the regression results consistently indicate that Black defendants are significantly more likely than similarly situated non-Black (and White) defendants to receive a death sentence across numerous models. This remains the case when victim race is included in the model. *Indeed, the results of all of the thirteen models presented in this document indicate that Black defendants are more than four times more likely to be sentenced to death than other defendants.* The p-values associated with these coefficients range from .015 to .053. In ten of the thirteen models we present, the p-value is less than .05. In the other three models, it is between .051 and .053.

The regression results thus show that the race of the defendant has a large and consistent impact on sentencing outcomes in capital cases. Together, the descriptive and statistical findings provide strong, consistent and compelling evidence that jury decision-making in capital cases in Washington State has been notably influenced by the race of the defendant.

In the remainder of this report, we provide a more detailed response to Dr. Scurich's claims and an explanation of why they are largely incorrect. We do not show all tables and statistical output in the body of this response, but rather summarize some of them. However, *all* regression results are provided in Appendix C for interested readers.

[18] Confidence interval end points are calculated as follows: 100 (1-α) % = confidence interval. Pillemer, David, *One-versus Two-Tailed Hypothesis Tests in Contemporary Educational Research*, EDUCATIONAL RESEARCHER, 20(9), 13-17 (1991) at 16.

II. QUALIFICATIONS OF THE RESEARCHERS

Katherine Beckett is a Professor in the Law, Societies & Justice Program and Professor and Clarence and Elissa M. ("Lee") Schrag Endowed Faculty Fellow in the Department of Sociology at the University of Washington, where she also serves as Director of the Comparative Law and Society Studies (CLASS) Center. Dr. Beckett earned her B.A. from the University of California at San Diego and her M.A. and Ph.D in Sociology from the University of California at Los Angeles. Her research focuses on social dynamics surrounding criminal law and punishment, with a particular focus on the role of race in legal and penal processes. She is the author of three books and over 50 articles and chapters. Her work has been funded by the National Science Foundation, the Ford Foundation, the Washington State Minority & Justice Commission, the Allen Foundation, the Open Society Institute and others. Dr. Beckett has received numerous awards for her research and public service, including the University of Washington's Public Service Award, and was elected to membership to the Sociological Research Association in 2011.[19] In 2016, she was elected to membership in the Washington State Academy of Sciences, the mission of which is to bring scientific analysis to bear on public policy making in the state of Washington.[20]

Heather Evans earned her B.A. and M.A. from the University of Washington, where she is currently a Ph.D. candidate in the Department of Sociology. As part of her graduate coursework, she earned a minor in Social Statistics from the Center for Statistics and the Social Sciences in 2010. Ms. Evans has served as the graduate student assistant instructor for several graduate methods courses, including Applied Social Statistics, Methodology, and Quantitative Techniques in Sociology. Her dissertation research is supported by the National Science Foundation. Heather has won numerous teaching and research awards, served as a research assistant and consultant on many faculty research projects, and published extensively, including articles in the two top Sociology journals (*American Sociological Review* and *American Journal of Sociology*).

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[19] The SRA was founded in 1936 to recognize and promote excellence in sociological research. The association currently consists of more than 400 members who have had long-term careers of outstanding research. See https://en.wikipedia.org/wiki/Sociological_Research_Association

[20] For more information about the Academy see http://www.washacad.org/about/index.html

III. RESPONSE TO SCURICH EVALUATION

Our report, *The Role of Race in Washington State Capital Sentencing, 1981-2014,* showed that Washington State juries are notably more likely to impose death sentences in aggravated murder cases involving Black defendants than in cases involving similarly situated non-Black defendants. The descriptive data show that among cases in which death notices were filed and defendants were eligible for capital punishment, juries imposed death in 38.8 percent of the cases involving non-Black defendants, but 64.3 percent of the cases involving Black defendants (see p. 21 of our report). Our regression analyses indicated that this pronounced racial disparity persisted after relevant case characteristics (as well as a range of victim and county characteristics) were taken into account.

Nicholas Scurich of Park Dietz & Associates has submitted an evaluation of our report. In it, Dr. Scurich offers three main critiques of our report and findings. First, he argues that the data are unreliable and that the presentation of the descriptive data is inappropriate. Second, he contends that our regression results are invalid. Finally, he suggests that we engaged in unethical and unprofessional conduct in order to produce misleading results. In this response, we show that these claims are incorrect. Specifically, we show that the data we analyze are reliable; that the regression results are robust across a variety of model specifications, including those Dr. Scurich recommends; that the research process was valid and ethical; and that strong evidence of unwarranted racial disparity in Washington State capital sentencing outcomes exists.

A. Data Reliability

The Nature of the Data

In questioning the reliability of the data used in our report, Dr. Scurich misrepresents the nature of the data we analyzed. Dr. Scurich argues that the absence of a discussion regarding how we coded variables such as "extensive publicity" and numeric indicators of inter-coder reliability render our data unreliable (see pp. 6-7 of his critique). Specifically, he argued that

> "It is crucial to know the degree of [interrater] reliability because reliability of measurement sets an upper bound limit on the validity of any results. Thus, if measurement lacks reliability, any inferences based upon that measurement could be spurious" (Scurich at 84).

Inter-rater reliability, also known as inter-coder reliability, is used to assess levels of agreement among individuals coding, rating, or ranking information.[21] We did not provide an estimate of inter-rater reliability because we did not ask our research assistants to rate, rank, or make evaluative judgments of the information provided on the Trial Reports. In our study, the data entry assistants we employed were simply entering the information provided by judges on Trial Reports into an Excel spreadsheet. In other words, subjective judgments were not required.[22] For example, whether there was extensive publicity surrounding the case in question was determined by judges who checked either a yes or no box in response to this question; our data entry assistants did not make this judgment, but rather simply recorded whether the box was checked.

For this reason, measures of inter-coder reliability are not required or appropriate. Based on Dr. Scurich's assertion that variables such as "extensive publicity" required subjectivity in interpretation,[23] we infer that he has not seen a Washington State special sentencing Trial Report and remains unfamiliar with how these data were compiled.

Inclusion of Second Trials

Dr. Scurich's claim that there are "redundancies" in the data that should be removed is misleading: there are no "redundant" cases. It is true that three defendants in the dataset had second trials and that these second trials are included in our analyses.[24] This is appropriate because in our study, the unit of analysis is the outcome (specifically, the decision to file a death notice or impose a death sentence), not the defendant. The three cases that Dr. Scurich

[21] Tinsley, H. E., & Brown, S. D,, eds., HANDBOOK OF APPLIED MULTIVARIATE STATISTICS AND MATHEMATICAL MODELING (Elsevier Inc., 2000) at 95; Rosenthal, R., & Rosnow, R.L., ESSENTIALS OF BEHAVIORAL RESEARCH: METHODS AND DATA ANALYSIS (McGraw Hill Publishing, 1991) at 46-65.

[22] The only exception was the mitigating circumstances variable, about which judges often hand-wrote notations that required some legal knowledge to interpret. For this reason, we relied on the legal expertise of Mr. Gregory's attorneys in coding this variable. This is stated on p. 9 and pp. 46-7 of the codebook that was provided to Dr. Scurich. In addition, research assistants were asked to record whether judges indicated in words that a victim's suffering was prolonged or allowed to endure over time. However, this variable was not included in the final analyses because sensitivity analysis revealed that it was consistently insignificant.

[23] On page 84 of his critique, Dr. Scurich writes: "Moreover, some of the variables appear to require a degree of subjectivity in interpretation. For instance, "extensive publicity" was a significant predictor of whether prosecutors sought the death penalty (i.e., filed a death notice). Exactly what constitutes "extensive" publicity as opposed to "non- extensive" publicity about the trial is never explained in the text, and Appendix C simply states that this variable was "coded: 1 =Yes; 0= No."

[24] These defendants are: Mitchell Rupe, Trial Reports 7 and 31; Cecil Davis, Trial Reports 180 and 281; Allen Gregory, Trial Reports 216 and 312.

removed from one of his model tests[25] because he believed them to be "redundant" involved defendants (including Mr. Gregory) who had second trials *that involved newly constituted juries and different case characteristics, and therefore could very well have resulted in a different outcome*. In Mr. Gregory's case, for example, many such differences between the two trials exist, including the number of mitigating circumstances and the number of prior convictions.[26] In addition, the two trials were separated by eleven years and involved different juries and defense attorneys.

Dr. Scurich suggests that including both trials violates the assumption that the cases included in the regression model are independent, an assumption upon which regression analyses theoretically depend (see pp. 25-27 of his critique). While one can argue that a defendant's second trial is not entirely independent of his or her first trial, the argument can also be made that any trials involving the same judges, prosecutors, or defense attorneys are also not entirely independent of each other. In fact, if one interprets the assumption of independence broadly, cases adjudicated by the same judge, or in the same county, could be said to violate the assumption of independence. Given the very significant differences that can characterize the three second trials from the first trials, and the fact that the second juries plainly could have made a different sentencing decision, we believe it is most appropriate to include both trials in the data set - while also remembering that regression results are always and inevitably mathematical estimates of real-world processes.

It is also worth noting that when Dr. Scurich removes the three second trials (including Mr. Gregory's) from his analysis, the results continue to indicate that Black defendants are more than four times more likely to be sentenced to death than similarly situated non-Black defendants, and that this difference is statistically significant (p=.053).[27] Because he rejects inclusion of the $p < .10$ threshold in favor of the $p < .05$ threshold, and interprets this threshold rigidly, he considers this to be a non-significant finding (as .053 is greater than .050).

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[25] See Scurich critique, Section 2.3 'Remove redundant cases from the model' at 25-26.

[26] In Mr. Gregory's first trial, the Trial Report shows zero mitigating circumstances and three violent prior convictions. His second Trial Report shows one mitigating circumstance and no violent prior convictions. Cecil Davis' second trial also differed from his first in important ways: an additional murder conviction was added to his criminal history between the two trials, and, of course, the juries were different.

[27] Dr. Scurich presents raw statistical output showing the regression coefficient for Black defendants is 1.456 (4.5 times more likely than nonblack defendants) with a corresponding p-value of 0.053 on pp. 26-27 of his report.

By contrast, we see this as a significant finding not only because .053 is well under the .10 threshold we consider, but also because it is very close to the .05 cutoff Dr. Scurich prefers. As the ASA statement on p-values from which Dr. Scurich quotes indicates,

> Scientific conclusions and business or policy decisions should not be based only on whether a p-value passes a specific threshold. Practices that reduce data analysis or scientific inference to mechanical "bright-line" rules (such as "$p < 0.05$") for justifying scientific claims or conclusions can lead to erroneous beliefs and poor decision-making. A conclusion does not immediately become "true" on one side of the divide and "false" on the other (quoted in Scurich critique at 22).[28]

For all of these reasons, we continue to believe that including these second trials is not redundant, but appropriate. Moreover, Dr. Scurich's own findings suggest that the race of the defendant has an important impact on capital sentencing outcomes in Washington State even when these second trials are removed from the regression analyses.

Inclusivity of the Data

Dr. Scurich also emphasizes that he cannot verify whether the data set is inclusive of all death-eligible aggravated murder cases. Specifically, Dr. Scurich states:

> There is an extremely important caveat that must be addressed before delving into the data. I have not done an independent verification that the datafile is a.) inclusive of all death penalty-eligible cases in the state of Washington from 1981-2014 or b.) that the variables are reliably coded within the file.
>
> With regard to the first issue, the codebook states, "These data are derived from trial reports pertaining to aggravated murder cases filed with the Washington State Supreme Court...A total of 331 trial reports were ultimately made available (p. 3)." It remains to be seen whether the number of reports "made available" is equal to the number of "cases filed" or whether the number of "cases filed" is equal to the total number of capital cases in Washington State from 1981-2014. If cases are missing, it is possible that the results would materially change (Scurich at 6).

[28] Wasserstein, R.L., & Lazar, N.A. *The ASA's statement on P-Values: Context, Process, and Purpose.* THE AMERICAN STATISTICIAN 70(2), 129-131 (2016), at 131.

The numbers are easily verified. As noted in our report, Trial Report number 331 was filed in the Washington Supreme Court in May of 2014, and Trial Reports numbered 1-331 formed the basis for the data set used in the study (see p. 13; see also Codebook at 3).[29] The first page of each Trial Report is date-stamped by the Clerk of the Supreme Court. These stamps demonstrate that Trial Report number 331 was filed May 29, 2014, and Trial Report number 332 was filed June 26, 2014. The latter date falls outside the time period covered in our study. Thus, the number of Trial Reports the Supreme Court made available to attorneys Lila Silverstein and Neil Fox and to us was equal to the number of Trial Reports filed.[30]

Regarding whether the number of Trial Reports filed is equal to the total number of aggravated murder cases in Washington: the Supreme Court has repeatedly held that even if some Trial Reports are missing, the data set is complete enough for purposes of proportionality review:

> Assuming that not every aggravated murder conviction is included in the database, the large number of cases that are available provide the court with a sufficient number to enable it to complete a valid and meaningful proportionality review.[31]

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[29] In our report we refer to a total of 330 cases because the case described in Trial Report 292 was not an aggravated murder case.

[30] Some Trial Reports were accompanied by an addendum that included updated information about a particular case. For example, Trial Report number 85A included updated information about Trial Report 85 and Trial Report 97A included information about the case described in Trial Report 97. It recently came to our attention that Trial Report 34A was not simply an addendum, but rather contained information about a separate case involving the same defendant described in Trial Report 34. This case was not included in the analyses presented in our report. The defendant in question is Paul St. Pierre, a white man who was convicted of two separate aggravated murders and was sentenced by both of his juries to life without the possibility of parole. (Trial Report 16A was not included because the defendant was convicted before the current statute took effect). Hence, although the Trial Reports are numbered 1-331, there are actually 332 Trial Reports describing 331 aggravated murder cases that took place while the current statute was in effect (because, again, Trial Report 292 pertained to a case that was actually not an aggravated murder case). All 331 aggravated murder cases are included where appropriate in the analyses that follow.

[31] *In re Elmore*, 162 Wn. 2d 236, 270, 172 P.3d 335 (2007). On November 26, 2013, Mr. Gregory's attorneys filed a Motion to Complete the Process of Compiling a Full Set of Aggravated Murder Reports, but on January 9, 2014 that motion was denied without comment. The Court had already ruled that the data set was complete enough to perform proportionality review, the purpose of which "is to avoid random arbitrariness and imposition of the death sentence based on race." *Elmore*, 162 Wn.2d at 270.

Data Entry Errors

Finally, Dr. Scurich did identify three data entry errors in the dataset we analyzed and suggests that there may be more. Although all data sets may contain isolated inaccuracies due to data entry errors, we took active steps to minimize these. Specifically, we trained and employed two assistants who cross-checked their work and resolved any discrepancies that emerged through that process. These data entry assistants were not informed of the purpose of our study. If any data entry errors remain, these are isolated and non-systematic.

In all of the analyses that follow, we have corrected the three data entry errors identified by Dr. Scurich. We show that doing so does not diminish the impact of the race of defendant on sentencing outcomes.

B. VALIDITY OF THE PRESENTATION OF THE DESCRIPTIVE DATA

On pages 7-14 of his critique, Dr. Scurich offers several criticisms of the presentation of our descriptive findings in Tables 1-3 of our report. Below, we respond to each of these. Please note that we use letters rather than numbers to identify tables presented in this document so they are not confused with the numbered tables that appear in our report.

Table 1. Proportion of Aggravated Murder Cases with Death-Eligible Defendants in which Death was Sought and Imposed, by County

On p. 9 of his critique, Dr. Scurich suggests that our use of the full data set (n=297) in the denominator of the death penalty imposed calculations presented in Table 1 of our report is "incorrect," and that the "correct" denominator is the number of cases in which a death notice was filed. In fact, the use of each of these denominators generates two different but valid measures. As Baldus, Woodworth and Weiner (2009: 136-7) write, "There are two common approaches to analysis of case flows through the procedural stages [of capital sentencing]... First are analyses within a procedural stage... Second are analyses across multiple stages that reflect the combined effects of decisions across multiple decision points in the process."[32] The figures presented in Table 1 of our report were an example of the latter approach, and were intended to provide readers with a broad sense of county-level variation in the share of aggravated murder convictions that resulted in a death sentence in Washington State – regardless of the precise mechanism that explained this variation. Given this goal, the denominator we utilized was appropriate.

[32] See David Baldus, George Woodworth and Neil Alan Weiner, *Perspectives, Approaches, and Future Directions in Death Penalty Proportionality Studies*. Chapter 8 in THE FUTURE OF AMERICA'S DEATH PENALTY: AN AGENDA FOR THE NEXT GENERATION OF CAPITAL PUNISHMENT RESEARCH, edited by Charles S. Lanier, William J. Bowers, and James R. Acker (Durham, North Carolina: Carolina Academic Press, 2009) at 136-7.

Dr. Scurich also writes that he cannot confirm the numbers presented in the "average number of victims" and "average number of affirmed aggravators" columns, and complains that this "variable" was not provided to him (see p. 9). Specifically, he writes that,

> I was not able to verify the numbers in the 'average number of victims' column. This variable does not appear in the datafile or the codebook. It is also not explicitly defined in the Report, leaving it unclear as to what the average refers to exactly (e.g., average number of victims per defendant, per case, etc.) (Scurich at 9).

His confusion on this point is perplexing. Averages are not variables associated with individual cases; they are calculations based on the dataset as a whole or a subset of the data. Clearly, a single case cannot have an "average" number of victims. In Table 1, the averages presented are based on the subset of cases adjudicated in each county. Dr. Scurich could have confirmed these figures simply by calculating the averages for each county, as we did.[33] Because the average (mean) is a summary statistic calculated from variable values, averages for the variables are not included as separate "variables" in the data file.[34]

Table 2: Capital Sentence Outcomes among Death-Eligible Washington State Aggravated Murder Defendants

Table 2 of our report compared the share of cases in which death notices were filed and death sentences were imposed across racial groups (see p. 21). This table also showed the proportion of cases in which death sentences survived the appeals process for each racial group.[35] This table was intended to provide readers with a broad overview of the racial composition of defendants in cases in which death notices were filed and death sentences were imposed and retained. However, we did not include the racial breakdown of outcomes in cases in which

[33] For example, in Thurston County, there were six trials for aggravated murder death-eligible defendants during this time period (Trial Report Numbers 7, 31, 46, 51, 197, and 268). The number of victims involved in these cases was 2,2,1,1,1,1 (respectively). An average is calculated by summing the values of a variable (e.g., the number of victims) and dividing by the number of cases (e.g., in Thurston County: 6). Average number of victims: 1.25, rounded to 1 victim.

[34] Dr. Scurich also claims that he was unable to find a variable matching the description "average number of affirmed aggravators" and suspects that it may be represented by either the "number of alleged aggravated circumstances" or the variable "number of aggravated circumstances found by the judge to be applicable" (p. 9). To clarify, the latter is correct: we consider the number of aggravated circumstances found by the jury to be applicable to be affirmed aggravators.

[35] This information was provided to us by attorneys Lila Silverstein and Neil Fox.

prosecutors filed death notices. Dr. Scurich critiques this omission, again arguing that the relevant denominator is the number of cases in which a death notice was filed, not the total number of cases.[36] Again, we maintain that these are two different but valid measures. However, we are happy to provide the data in the manner he recommends in Table A below. We also present this data embedded in a modified version of the original table in Appendix C (see Tables C1 and C2). Note that these tables include all cases in which death notices were filed and special sentencing hearings occurred.[37]

Table A. Percent of Aggravated Murder Cases with Special Sentencing Proceedings in which Juries Imposed a Death Sentence, by Race of Defendant

	Black Defendants	Non-Black Defendants	White Defendants	Other Race Defendants
Percent Sentenced to Death	64.3% (9/14)	38.8% (26/67)	40.4% (23/57)	30% (3/10)

Note: In this table, and throughout our report, the "non-Black" category includes "White" and "Other" defendants. Race for one defendant is unknown. Cases in which death notices were filed, special sentencing proceedings occurred, and the race of the defendant is known are included here (n=81). Prosecutors filed death notices against three defendants who were later ruled to be ineligible for special sentencing proceedings and against two defendants who subsequently entered a stipulated guilty plea that took death sentences off the table; these cases are not included here. In addition, race of the defendant is unknown in one case.

As this table shows, in cases in which death notices were filed and not withdrawn, *juries imposed death in 38.8 percent of the cases involving death eligible non-Black defendants, but 64.3 percent of otherwise similar cases involving Black defendants.* The racial gap between White and Black defendants in nearly as large.

[36] Specifically, on p. 10 of his critique, Dr. Scurich again suggests that our use of the full data set (n=297) in the denominator of the death penalty imposed calculations presented in Table 2 of our report is "incorrect" and that "the appropriate denominator is 86 (the number of death a death notice was filed), not the total number of cases (296), since the death penalty cannot be imposed if a death notice is not filed." In fact, these are two different and potentially relevant measures. See Baldus, Woodworth and Weiner 2009, *supra*, fn. 32.

[37] Prosecutors filed death notices in 87 cases. In three of these cases, defendants were later determined to be ineligible for special sentencing proceedings (Trial Reports 68, 217, and 308). In two additional cases, defendants subsequently entered a stipulated guilty plea and a special sentencing hearing therefore did not occur (Trial Reports 152 and 153). The tables shown here and in Appendix C include cases in which death notices were filed and a special sentencing hearing occurred. These numbers differ slightly from those presented on p. 21 of our report as a result of the data entry corrections, the inclusion of the case described in Trial Report 34A, and because we do not include the two defendants who entered a stipulated guilty plea here.

It is conceivable that this stark racial disparity is a function of important differences in the culpability of defendants. For example, if cases involving Black defendants have markedly more victims or aggravating circumstances, or notably fewer mitigating circumstances or defenses offered than cases involving non-Black defendants, this could help explain why juries sentence Black defendants to death more frequently than they do non-Black defendants. As noted in our report, the regression analyses are intended to assess this possibility and to isolate the effect of defendant race after taking these case characteristics (and other factors) into account.

Below, we provide descriptive information about the relevant case characteristics that are included in the regression models. Specifically, Table B below shows the mean (average) and median (typical) number of important case characteristics in death-eligible aggravated murder cases.

Table B. Comparison of Case Characteristics Defendants in Cases with Special Sentencing Proceedings, by Race of Defendant

	Number of aggravators		Number of mitigating circumstances		Number of victims		Number of violent priors		Victim held hostage	Number of Cases
	Mn	Md	Mn	Md	Mn	Md	Mn	Md	Percent	N
Black Defendants	2	1	2	2	1	1	2	2	42.9% (6/14)	14
Non-Black Defendants	2	2	2	2	2	1	1	1	31.8% (21/66)	67
White Defendants	3	2	2	2	2	1	1	1	35.1% (20/57)	57
Other Defendants	2	2	2	1	4	1	1	0	11.1% (1/9)	10
All Defendants	2	2	2	2	2	1	1	1	33.3% (27/81)	81

Notes: Mn represents mean (average); Md represents median (the typical value). Defendant race is unknown in one case; therefore the number of defendants broken out by race is 81 although the total number of all defendants with death notices filed and special sentencing proceedings is 82. Here we refer to the number of aggravators found by the jury (as opposed to the number alleged by prosecutors). Information on whether the victim was held hostage was missing in one Trial Report (n=81).

The data shown in Table B reveal only minor differences in case characteristics across racial categories. Some of these differences are indicative of greater culpability of Black defendants, but others suggest the opposite. For example, a larger share of Black defendants than non-Black defendants were alleged to have held their victim(s) hostage (42.9 percent vs. 31.8 percent), and Black defendants had an average of two violent prior convictions, rather than one. On the other hand, Black defendants had an average of one victim, as opposed to two, and

a typical case involving a Black defendant involved one aggravating circumstance rather than two for non-Black defendants.

In sum, the descriptive data presented in Table A above – which Dr. Scurich argues should have been included in our report – show a large racial disparity between the proportions of Black and non-Black defendants against whom death notices are filed and not withdrawn who are sentenced to death. These data are thus consistent with the hypothesis that the race of the defendant influenced decisions to impose the death penalty in aggravated murder cases adjudicated in Washington State from December 1981 to May 2014. The descriptive data presented in Table B provide little reason to suspect that this stark racial disparity is a function of case characteristics. The regression analyses are intended to test this hypothesis.

Table 3. Capital Case Outcomes among Death-Eligible Washington State Aggravated Murder Defendants, December 1981 - May 2014

Table 3 of our report provided information about the status of aggravated murder cases involving different racial defendant-victim configurations (see p. 22). The point of this table was to provide readers with a broad overview of the basic patterns, and to consider whether the descriptive data provided preliminary evidence that race of victim in combination with the race of the defendant may be consequential. In this table, we only included information about cases involving defendants convicted of killing one victim, as stated in the table note and in the paragraph preceding Table 3. We limited the analysis to cases involving just one victim mainly because it is difficult to categorize cases involving multiple victims with different racial identities. We also did so in order to informally "control for" the number of victims. In the field of sociology, this approach of examining data through descriptive analyses that increasingly control for factors that vary across cases is one of the primary ways analysts develop hypotheses that can be tested using regression models.[38]

On p. 13 of his critique, Dr. Scurich argues that the title of this table is misleading. Specifically, Dr. Scurich writes,

> It is worth reflecting on the percentages associated with these categories of defendant/victim race. Table 3 in the Beckett and Evans report provides percentages based on the total number of "death-eligible" cases (presumably 297). But the columns in Table 3 only include cases in which a death notice was filed, the death penalty was imposed, or the death penalty was retained. *It is*

[38] Hosmer, D.W., & Lemeshow, S. APPLIED LOGISTIC REGRESSION (Wiley 2000, 2nd edition), at 92-93.

inappropriate and misleading to use a denominator associated with all cases when the columns in the table refer to a truncated sample (emphasis added).

Dr. Scurich is incorrect; the analysis was *not* limited to cases in which death notices were filed, and therefore there is no misrepresentation. As the note at the bottom of Table 3 of our report clearly states, the table included *all* Black and White death-eligible defendants with *one* White or Black victim (emphasis added here). That the analysis was not limited to cases in which death notices were filed is also evident if one looks, for example, at the denominator of the white defendant/white victim category for death notice filed, which is 117. The total number of cases in which death notices were filed is 86.[39] Since 117 is greater than 86, it is evident that Dr. Scurich's claim that we limited this analysis to cases in which death notices were filed (and misrepresented this in the title of the table) is unfounded. (See Appendix Table C3 for the denominators used to derive this information.)

Moreover, Dr. Scurich somehow misinterpreted our table note, which states that "Figures include only black and white 'death eligible' defendants with one white or black victim" to mean defendants with *at least* one white or *at least* one black victim. Dr. Scurich discusses his confusion in footnote 5 and on page 12. Dr. Scurich's confusion is puzzling, given that, in addition to our table note, we also state clearly in the paragraph preceding Table 3 that "...Table 3 compares outcomes for black and white defendants convicted of killing *a single* white victim versus a single black victim" (p. 23, emphasis added). *Dr. Scurich's inability to replicate the numbers shown in Table 3 of our report stems from his misunderstanding of the cases included in the table.*

Although we did not limit the analysis presented in Table 3 of our report to cases in which death notices were filed and defendants remained eligible for the death penalty, we are happy to present the data in this manner. Below, Table C shows the proportion of such cases in which a death sentence was imposed. As the table shows, among cases involving a Black or White defendant and a single Black or White victim, juries imposed death sentences in much larger share of cases involving a Black defendant and White victim (71.4 percent) compared to those involving a White defendant and a White victim (24.2 percent).

[39] The total number of cases in which death notices were filed and special sentencing proceedings occurred, after the corrections previously discussed, is 82.

Table C. Percent of Aggravated Murder Cases in which Special Sentencing Proceedings Occurred and Juries Imposed a Death Sentence, by Race of Defendant and Victim (Cases involving Black and White Defendants and Victims Only)				
	Black Defendant/ White Victim	Black Defendant/ Black Victim	White Defendant/ White Victim	White Defendant/ Black Victim
Percent Sentenced to Death	71.4% (5/7)	100% (1/1)	24.2% (8/33)	NA (0/0)

Note: In this table, figures include cases that involve a death-eligible Black or White defendant who had a special sentencing proceeding and one Black or White victim. Prosecutors filed death notices against three defendants who were ineligible for the death penalty due to court rulings and two who later entered a stipulated guilty plea; these cases are not included here.

Finally, in his discussion of Table 3 or our report, Dr. Scurich claims that we did not provide him with binary variables for number of victims, and therefore that this variable had to be created (p. 16). He reiterates this claim later in Appendix A4: "I had to recode this variable (Vics_NumOrdinal) to create a variable representing 1 victim vs. multiple victims, which was included in the model" (p. 40). However, these variables *are* in the data file and were listed in the codebook provided to him. Indeed, binary variables for number of victims are listed directly after the variable (Vics_NumOrdinal) that he reports using to derive the binary variable. In addition to appearing in the data file, these variables are also described on page 6, and in more detail, page 22, in the Codebook provided to him.[40] (See Appendix Figure C1 on page 62 for a snapshot of how this variable appeared in the Codebook that was provided to Dr. Scurich).

C. Reliability of the Research Process And Regression Results

Reliability of the Research Process

In his critique, Dr. Scurich strongly implies, and at times asserts, that our analytic and methodological decisions were selected in order to produce (misleading) results indicating that the race of the defendant matters in capital sentencing. For example, Scurich writes that "... it seems obvious that the regression models were configured opportunistically in order to achieve 'statistical significance'" (p. 95). This is untrue.

[40] The variables are named 'Vics_1Total', 'Vics_2_4Total', and 'Vics_5plusTotal' representing binary (dichotomous variables coded as 0 or 1) for each of these categories.

To support his allegation, Scurich cites the recent American Statistical Association's (ASA) statement on P-values[41] that criticizes p-hacking – or "cherry-picking" – of significant findings.[42] We absolutely agree that this practice should be avoided, which is why we engaged in model testing (or what Dr. Scurich calls sensitivity analysis) in order *to ensure that the race of defendant effect is robust (consistent) across a variety of models.* As described in our report, we modeled the jury decision-making process in numerous ways, testing the inclusion of numerous variables in order to determine whether defendant race remains consistently significant across many model variants (see pp. 17, 18, and 29). (It did). This is conventional practice, and indeed is recommended in the textbook that Dr. Scurich claims is the authoritative text on logistic regression:

> Similarly, *the* authoritative text on logistic regression notes, "The guiding principle with logistic regression is the same: Compare observed values of the response variable to predicted values obtained from models with and without the variable in question (Scurich at 85).[43]

In short, the process we call model testing is the same process that Dr. Scurich undertook in order to assess the reliability of our regression results. We described this process in our report and included a description of the variables tested (see pp. 17, 18, and 29). Many of the models we tested were presented in Appendix E rather than the body of our report. This was not an effort to conceal findings or to selectively present only those findings which showed race of defendant effect to be significant: all of our models found race of defendant effect to be significant. However, we did endeavor to find the most parsimonious model (the model with the fewest variables) possible that also included (or controlled for) all relevant case characteristics, and presented these models in the body of our report.[44]

In light of Dr. Scurich's allegation that we engaged in "p-hacking," we again present the results of numerous alternative statistical models below and in Appendix A and Appendix C of this

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[41] Ronald L. Wallerstein and Nicole A Lazaar, *The ASA's Statement on P-Values: Context, Process and Purpose*, THE AMERICAN STATISTICIAN 70, 2: 129-133 (2016).

[42] Dr. Scurich states: "in reality, the true p-value is likely to be much greater given the amount of p-hacking that occurred" (p. 89). For more accusations of p-hacking, see also Scurich critique at 29, 87, 94, and 95.

[43] Hosmer, D.W., & Lemeshow, S., APPLIED LOGISTIC REGRESSION (Wiley, 2nd Ed., 2000). See especially Chapter 4: Model–Building Strategies and Methods for Logistic Regression (pp. 91-142), including a subsection called "Variable Selection" (pp.92-116).

[44] Seeking the most parsimonious model possible is standard and ethical practice in the social sciences, and is discussed at length by the authors of what Dr. Scurich describes as "*the* authoritative text on logistic regression" (Scurich at 85).

document. Appendix C shows not only the tables, but also the unaltered statistical output obtained when running these models. These results clearly show that the finding regarding the significance of the race of the defendant in jury sentencing decisions is consistent across a variety of model specifications, including those Dr. Scurich deems essential.

Dr. Scurich also implies that regression analysis of sentencing outcomes cannot be done with these data due to the relatively small number of cases that can be included. We disagree. (See Appendix A for a discussion of sample size, model testing, p-values and other technical issues). We concur that a small number of cases is not ideal for logistic regression when results are intended to be generalized to or draw inferences about other populations. *This concern does not apply to our analysis*: these data are not a sample taken from a larger pool of cases, but rather encompass the entire population under study. [45]

When conducting logistic regression analysis on a relatively small number of cases, it is important to ensure that neither outliers (i.e. highly unusual cases) nor small changes in model specification have undue influence on the results. It is precisely for this reason that we conducted rigorous diagnostics and model testing to determine what, if any, minor changes in model specification might impact the race of defendant effect and whether this result was unduly influenced by any outliers.[46] We undertook this process not to "cherry pick" or "p-hack" our findings, but to gain confidence that this finding was robust regardless of differing model parameters, variable omissions, and controls. In plain terms, we tried every plausible model we could think of to try to make effect of Black defendant disappear, but were unable to do so. Below, we show that regardless of how the model is specified, we find that Black defendants are more likely to be sentenced to death in Washington State than similarly situated non-Black defendants after correcting three data entry errors.

In addition, Dr. Scurich implies that we include the $p < .1$ threshold in our analyses so that we can report that the race of defendant effect is statistically significant. Dr. Scurich further argues that setting an alpha level at .10 creates an unacceptably high risk of a false positive.[47] In this case, a false positive would mean concluding that the race of the defendant has a significant

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[45] Agresti, A. and B. Finlay, STATISTICAL METHODS FOR THE SOCIAL SCIENCES, 3rd Ed (Upper Saddle, NJ: Prentice Hall, 1997) at 5-7.

[46] Diagnostic tests revealed one potential outlier. Removing this case from the analysis had no meaningful impact on the results and it is therefore included in our analyses. Please see Appendix A (footnote 91 on p. 51) for a complete discussion of this issue.

[47] See Scurich at 88-89 and in footnote 43. Please see Appendix A. pp. 42-48 of this document for a detailed description of p-values and alpha levels.

impact on the likelihood that defendants are sentenced to death when in fact it does not. We disagree that setting alpha at .10 is problematic or unacceptably risky for the following reasons:

- When populations rather than samples are analyzed, p-values are less important because the results are not used to draw inferences or generalize to other populations.

- It is arguable on ethical (and Constitutional) grounds that the risk of a falsely negative conclusion – that is, concluding that race is not significant in the context of capital sentencing when in fact it is significant – is greater than the risk of a false positive, that is, believing that the race of defendant matters when it does not.

- As we have discussed, social scientists often identify the appropriate threshold for determining significance based on whether researchers are testing non-directional (two-tailed) or directional (one-tailed) hypotheses. In this case, the primary hypothesis being tested is directional, and is therefore appropriately paired with an alpha level of .10.[48] (Please see Appendix A for a detailed discussion of alpha levels and p-values). The literature review presented in our report shows that when studies find evidence that race matters, they find that a) Black/minority defendants are treated comparatively harshly; and b) defendants convicted of killing White victims are treated comparatively harshly (see pp. 5-12). Recent studies of jury selection processes and decision-making dynamics provide additional evidence of this pattern.[49] Indeed, we are unaware of any studies in Washington State or the United States that show that White defendants or

[48] Pillemer, David, *One-versus Two-Tailed Hypothesis Tests In Contemporary Educational Research*, EDUCATIONAL RESEARCHER, 20, 9: 13-17 (1991); Ringwalt, C., Paschall, M. J., Gorman, D., Derzon, J., & Kinlaw, A., *The use of one-versus two-tailed tests to evaluate prevention programs*, EVALUATION & THE HEALTH PROFESSIONS 34, 2: 135-150 (2011); Agresti, A. and B. Finlay, *One-sided alternative hypotheses*, STATISTICAL METHODS FOR THE SOCIAL SCIENCES (Upper Saddle, NJ: Prentice Hall, 1997, 3rd edition) at 165-166.

[49] See especially Jennifer L. Eberhardt, Paul G. Davies, Valerie J. Purdie-Vaughns & Sheri Lynn Johnson, *Looking Deathworthy: Perceived Stereotypicality of Black Defendants Predicts Capital-Sentencing Outcomes*, 17 PSYCHOLOGICAL SCIENCE 383 (2006); Phillip Atiba Goff, Jennifer L. Eberhardt, Melissa J. Williams & Matthew Christian Jackson, *Not Yet Human: Implicit Knowledge, Historical Dehumanization, and Contemporary Consequences*, 94 J. PERS. & SOC. PSYCHOL. 292 (2008); Radha Iyengar, *Who's the Fairest in the Land? Analysis of Judge and Jury Death Penalty Decisions*, 54 J. L. & ECON. 693, 695–96, 708 (2011); Justin D. Levinson, Robert J. Smith & Danielle M. Young, *Devaluing Death: An Empirical Study of Implicit Racial Bias on Jury-eligible Citizens in Six Death Penalty States*, 89 N.Y.U. L. REV. 513 (2014); Tara L. Mitchell, Ryann M. Haw, Jeffrey E. Pfeifer & Christian A. Meissner, *Racial Bias in Mock Juror Decision-Making: A Meta-Analytic Review of Defendant Treatment*, 29 LAW & HUMAN BEHAV. 621, 631 (2005); Mona Lynch & Craig Haney, *Looking Across the Empathic Divide: Racialized Decision Making on the Capital Jury*, 2011 MICH. ST. L. REV. 573 (2011); Mona Lynch & Craig Haney, *Emotion, Authority and Death: (Raced) Deliberations in Mock Capital Jury Deliberations*, 40 LAW & SOC. INQUIRY 377 (2015).

defendants convicted of killing people of color are treated comparatively harshly. As a result, testing a directional hypothesis and inclusion of the $p < .1$ threshold is appropriate.

- Setting the alpha level at .10 is standard practice: studies of capital sentencing published in highly regarded and peer-reviewed journals include an alpha level of .10.[50]

In short, the literature provides strong support for our decision to adopt directional hypotheses and therefore to include the $p < .1$ threshold. We therefore maintain that inclusion of the .1 threshold for assessing statistical significance is valid and appropriate for this study. We also note, however, that the p-values reported here and in Appendix A range from .015 to .053 and thus fall far beneath the .10 threshold we consider. In ten of the thirteen models presented, the p-values also fall beneath the .05 threshold Dr. Scurich prefers. In the remainder, the reported p-values range from .051 to .053.

The Regression Results Continue to Show that The Race of Defendant Effect is Significant

The regression results presented in our report showed that juries are more than four times more likely to impose death sentences in cases involving Black defendants than similarly situated non-Black defendants. As noted previously, Dr. Scurich correctly identified three data entry errors in our report. *After correcting these errors, regression analyses continue to indicate that juries are more than four times more likely to impose death sentences in cases involving Black defendants than in cases involving similarly situated non-Black defendants.* For example, the model shown in Table D (which is identical to the model presented in Table 7 of our report other than having corrected for data errors) shows that *Black defendants are 4.8 times more likely than non-Black defendants to be sentenced to death after controlling for case characteristics (p=.040)* (see p. 31). (See Table D below, and Table C4 in the Technical Appendix for the table and associated unaltered statistical output).

[50] See, for example, David C. Baldus, Catherine M. Gross, George Woodworth and Richard Newell, *Racial Discrimination in the Administration of the Death Penalty: The Experience of the United States Armed Forces (1984-2005)*, JOURNAL OF CRIMINAL LAW & CRIMINOLOGY 101, 4: 1227-1336 (2012); John Donahue III, *Empirical Evaluation of the Connecticut Death Penalty System Since 1973: Are There Unlawful Racial, Gender and Geographic Disparities?* JOURNAL OF EMPIRICAL LEGAL STUDIES 11, 4: 637-96 (2014).

Table D. Impact of Case Characteristics and Defendant Race on Capital Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014				
N= 77	Death Penalty Imposed			Pseudo R^2 = 0.2371 LR chi2(7) = 24.93 Prob > chi2 = 0.0008
Variable	Coefficient	Exact P-Value	Odds Ratio	90% Confidence Interval
Prior Convictions (ln)	-0.092	0.504	0.912	-.320, .135
1 Victim	-0.716	0.225	0.489	-1.69, .254
Applied Aggravators	0.632	0.015	1.882**	.204, 1.06
Mitigating Circumstances (ln)	-0.263	0.087	0.769*	-.516, -.010
Defenses	-0.779	0.037	0.459**	-1.39, -.164
Victim Held Hostage	0.716	0.222	2.046	-.249, 1.68
Black Defendant	1.573	0.040	4.819**	.311, 2.83

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

Note: In this model, five cases (6.1%) were missing data and were therefore dropped from the analysis.

Correcting the data entry errors did impact some of the findings: "victim held hostage" is no longer statistically significant at any of the included thresholds (p=0.222), and the (logged) number of mitigating circumstances is now shown to be significant (p=.087). However, most findings remain unchanged: the number of applied aggravators continues to have a significant and positive effect, and the number of defenses has a significant and negative impact, on the likelihood that a defendant will be sentenced to death. *Most importantly, the results show that the effect of defendant race is large: the odds ratio is 4.819 (meaning that Black defendants are 4.8 times more likely to receive a death sentence than similarly situated non-Black defendants).* The confidence intervals shown on the far right of the table do not include zero for these significant predictors, and thus provide further confirmation of these findings.

Dr. Scurich's claim that the race of defendant is no longer significant when the data entry errors are remedied is thus incorrect.[51] It is also untrue that race of defendant becomes insignificant when slightly different models of jury decision-making are analyzed, as we show below and in Appendix A and Appendix C. Indeed, the race of defendant effect is robust (consistent) across a variety of model specifications, including those recommended by Dr. Scurich.

[51] Similarly, correcting data entry errors has little impact on the results of the analysis of prosecutorial decision-making (see Appendix Table C5 at p. 65].

Dr. Scurich fails to obtain these results because he committed two important errors in conducting his analyses. Below, we discuss each of these errors, and then show that when the models are run without these errors, the regression results continue to indicate that Black defendants are substantially more likely than non-Black (and White) defendants to be sentenced to death after controlling for case characteristics. This remains true when victim race is included in the model.

Error 1: Failure to Transform Variables

With one exception, Dr. Scurich failed to run his analyses with appropriate data transformations that were noted in our report. Specifically, as we stated on pp. 18-19 and in Appendix C of our report, we logged prior convictions (of all types), mitigating circumstances, and per capita revenue because these variables showed signs of skew. Transforming variables that exhibit skew (i.e. have a large concentration of cases at one end of the distribution with a "tail" at the other end) into forms that more closely resemble a normal distribution is standard practice; virtually all statistics textbooks discuss this practice at length, including advice about transforming variables into their natural logarithm, as we did.[52] *Transforming skewed variables by, for example, logging them is standard and appropriate practice when variables show signs of skew.*[53]

Appendix Figures C4 through C6 show histograms of the three variables that show signs of skew prior to their transformation. These figures also show that their distribution is normalized by logging them (see pp. 69-70 of this document). Dr. Scurich provides no indication that he ran any such diagnostics before running his regression models. Moreover, Dr. Scurich acknowledges that we conducted diagnostics and used goodness of fit measures to determine that transforming skewed variables was appropriate, but then claims that we never disclosed the fact that we transformed them in our report (Scurich at 20). Specifically, Dr. Scurich quotes *our* statement that:

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[52] As Agresti and Finlay suggest, "...transformation of the response mean or of the explanatory variables are useful in some situations. For example, suppose Y tends to increase or decrease over a certain range of X-values, but once a certain X-value has been reached, further increases in X have less effect on Y. For this concave increasing type of trend, X behaves like an exponential function of Y. Taking the logarithms of the X-values often linearizes the relationship. Another possible transform for this case is to invert the X-values (i.e., use 1/X as the explanatory variable. See Agresti, A. and B. Finlay, STATISTICAL METHODS FOR THE SOCIAL SCIENCES (3rd Ed. Upper Saddle, NJ: Prentice Hall, 1997) at 561. See also Scott J. Long, and Jeremy Freese, REGRESSION MODELS FOR CATEGORICAL DEPENDENT VARIABLES USING STATA (2nd Ed. College Station, Texas: StataCorp LP, 2006).

[53] Id.

> "Diagnostics showed that three variables were heavily skewed. These included: number of prior convictions, number of mitigating circumstances, and per capital [sic] revenue. Logging these variables normalized their distribution (page 18-19)" (quoted in Scurich at 20).

He then writes:

> "Notice that the "(ln)" appears behind "prior convictions" and "per capita revenue" in the memorandum but not in Table D3 from the original report. [The notation "ln" usually refers to a logarithmic transformation.] Thus, it appears Beckett and Evans used a logarithmic transformation of these variables but *never disclosed this fact in the Report*, nor did their Memorandum mention the error" (Scurich at 20) (emphasis added).

We did not consistently list "(ln)" after these variables in the tables; this was an oversight. However, we described this transformation and its justification on page 18-19 of our report (which was quoted by Dr. Scurich) and also in Appendix C, in which we describe each variable included in the models and how those variables are measured.

Despite numerous statements indicating that we transformed these variables, and clear evidence that the variables in question were, in fact, skewed, Dr. Scurich claims that we never disclosed the fact that we transformed the variables, and failed to use the transformed variables in all but one of his "tests." This error helps to explain why Dr. Scurich was unable to replicate our findings regarding sentencing outcomes. Dr. Scurich's failure to transform variables also appears to account for the difference between our findings and his regarding prosecutorial decision-making.[54]

We are certain that Dr. Scurich committed the error described above because we can replicate his results by intentionally failing to include the transformed variables. Figure C8 in Appendix C compares our findings when we intentionally commit this error to Dr. Scurich's results (see p. 72). This figure shows that we are able to replicate his results when we fail to transform the skewed variables. For this reason, we are confident that Dr. Scurich failed to perform the appropriate data transformation.

[54] See Appendix C, Table C5, at 65.

We can also show that our transformation of the variables in question was appropriate by comparing goodness-of-fit measures with and without this transformation. These measures are used to assess whether transforming variables improves the explanatory capacity of the regression models in question.[55] Appendix Figure C7 shows our raw output with and without transforming the number of prior convictions to correct for skew (see p. 71). The results show that that our findings are not only replicable, but that transforming the variable produces a more robust model, as indicated by comparing the likelihood ratio chi-square test (LR chi2), Prob>Chi2, and Pseudo R^2 values across these models.[56]

It is also worth noting that transforming the variables by logging them notably *reduced* the significance of defendant race. That is, if the model is run without transforming the skewed variables, the coefficient for Black defendant is 1.65 (odds ratio is 5.207), meaning that Black defendants are 5.2 times more likely than others to be sentenced to death (p=.023). With the transformation, the coefficient is 1.57 (odds ratio is 4.807), meaning that Black defendants are 4.8 times more likely to be sentenced to death after controlling for the other factors included in the model (p=.040) (see Figure C7 on p. 71). *If our selection of models had been guided by political considerations, as Dr. Scurich implies, we would not have transformed these variables.*

In the one instance in which Dr. Scurich did transform the variables "prior convictions" and "total mitigating circumstances" in an analysis of sentencing outcomes, he omitted 22 of the relevant cases. (Nine cases are inevitably dropped because they have missing values, but his output shows that 31 cases were dropped, a difference of 22 cases). Figure A below is a snapshot of his output when he ran this model with the transformed variables, and shows that the number of cases included in the analysis dropped to just 55.[57] Dr. Scurich thus dropped an additional 22 cases from his analysis without comment or explanation.

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[55] Agresti, A. and B. Finlay, 1997, STATISTICAL METHODS FOR THE SOCIAL SCIENCES (3rd Ed. Upper Saddle, NJ: Prentice Hall) at 596-598.

[56] For a guide on interpreting these values, please see Appendix B.

[57] Compare 'Case Processing Summary' table in Scurich critique, Appendix A7 at page 52 to 'Case Processing Summary' table in Appendix A7ii at page 57.

Figure A. Output from Scurich Evaluation Showing Dropped Cases When Skewed Variables are Logged, A7ii, pp. 57-58

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	55	64.0
	Missing Cases	31	36.0
	Total	86	100.0
Unselected Cases		0	.0
Total		86	100.0

a. If weight is in effect, see classification table for the total number of cases.

Although he does not mention this or identify which additional 22 cases were dropped from his analysis, we suspect that Dr. Scurich inadvertently dropped cases in which defendants have zero prior convictions and/or zero mitigating circumstances. This is because one cannot take the natural log of zero and any case with missing variable values is automatically dropped from the analysis. To avoid this, it is common practice to transform all values of the variable by adding a very small number (such as .001) before applying the logarithmic transformation.[58] If Dr. Scurich neglected to do this, then the 22 cases in which defendants had no priors and/or no mitigating circumstances would have been dropped. In this case, the number of cases Dr. Scurich dropped (22) matches the number of cases in which defendants have zero prior convictions and/or zero mitigating circumstances.[59] Furthermore, by dropping the cases in which defendants either had no prior convictions and/or no mitigating circumstances, we can replicate Dr. Scurich's results to approximately the third decimal point of his coefficients. (See Appendix Table C8 on p. 72 for Dr. Scurich's output and our replication of it.)

Dr. Scurich does not discuss or acknowledge the fact that he truncated the data when conducting this analysis. Nor does he provide any justification for doing so. Instead, he claims that when re-running the model with the transformed variables, he finds that there is no

[58] MedCal Statistical Software Manual. "Logarithmic Transformation." Available online at: https://www.medcalc.org/manual/log_transformation.php

[59] Nine Trial Reports listed the defendant as having no prior convictions (7,13, 31, 34, 42, 60, 88, 197, 303) and 14 listed no mitigating circumstances (3, 9, 23, 29, 36, 62, 76, 160, 177, 180, 183, 197, 216, 281). Note that Trial Report 197 lists no prior convictions *or* mitigating circumstances.

"effect for black defendant."[60] He then suggests that this may be due to unethical and unprofessional conduct on our part: "It is also possible, and there is some evidence to support this contention, that the variables included in the regression models were inaccurately described in the Report (and Beckett and Evans were aware of this but did not directly address it)" (Scurich at 21). *Instead, it was his failure to transform the skewed variables in all but one of his tests, and his failure to include all the relevant cases when transforming (i.e. logging) prior convictions and mitigating circumstances in this single test, that appear to account for his inability to replicate our findings.*

Error 2: Improper Measurement of Victim Race

Dr. Scurich claims that when race of victim is included in the model with race of defendant, the effect of defendant race is no longer significant:

> ... when the race of the victim as well as the race of the defendant is included in the model, neither the race of the victim nor the defendant is related to receiving a death sentence (Scurich at 3).

Dr. Scurich further notes that our report emphasized that numerous studies on capital punishment find that race of the victim is statistically associated with receiving a death sentence. He subsequently claims that we nonetheless "did not include race of the victim" during model testing (Scurich at 24).

Dr. Scurich is incorrect. We tested for this effect and included the results of this model in Appendix Table E4, entitled "Impact of Victim Characteristics on Capital Sentencing Outcomes in Eligible Aggravated Murder Cases" (see p. 44 of our report). In this table, we indicated that the log odds coefficient for victim race is -0.399 and not statistically significant (p=0.595.) This result shows that defendants in cases with exclusively White victims were not treated more harshly than other defendants.

We also discussed our decision to not present the results of the model controlling for *both* victim race and defendant race in our report:

[60] Dr. Scurich states: "I re-ran the model that appears in Table 7, except that I used a logarithmic transformation of prior convictions and number of mitigating circumstances." And continues: "I was not able to replicate the effect for black defendant (p=.256)" (Scurich at 20).

> We also tested the significance of a number of social factors. Unfortunately, not all of these factors could be included simultaneously in the analysis of jury decision-making because the smaller sample size reduces the number of variables that can be included in the models. Model testing suggested that the only social factor that was consistently relevant to the outcome is the race of the defendant. For this reason, defendant race is the only social factor included in the analysis of sentencing decisions models presented here (p. 18).

However, in light of Dr. Scurich's claim that race of defendant is no longer significant when victim race is included in the model, we show below that this is incorrect. The fact that Dr. Scurich does not obtain these results stems primarily from his improper measurement of victim race. Although claiming to control for victim race, Dr. Scurich instead included measures that combined information about the race of the defendant and the race of the victim.[61] Specifically, he included variables for White Defendant with White Victim(s) (48 cases); Black Defendant with White Victim(s) (10 cases); and Black Defendant with Black Victim(s) (two cases).[62]

Measuring victim race in this manner compares only cases involving Black or White defendants in which there were only Black or White victims. In other words, cases in which the defendant or victim was neither Black nor White are excluded, as are all cases in which there are multiple victims of different races. This results in his dropping 16 cases that had no missing data and could otherwise be included in the analysis, reducing the data to include only 60 of the 76 cases that are not missing data. Figure B below shows a copy of the statistical output from Dr. Scurich's analysis and confirms that this is the case.

[61] He states: "I re-ran the exact model reported in Table 7, except that I included a variable that took into account the race of the defendant *as well as* the race of the victim (DefRaceXVicRace)" (emphasis in the original) (Scurich at 24).

[62] See Scurich, Appendix B2, raw output "Categorical Variables Coding" at 66.

Figure B. Copy of Dr. Scurich Output Showing Dropped Cases in Model that Includes Victim Race, Scurich Appendix B2, p. 66

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	60	69.8
	Missing Cases	26	30.2
	Total	86	100.0
Unselected Cases		0	.0
Total		86	100.0

a. If weight is in effect, see classification table for the total number of cases.

In short, Dr. Scurich's claim that race of defendant becomes insignificant when information about victim race is included in the model is invalid because he obtains this result only after dropping 16 cases that can be included in the model when victim race is measured in a more inclusive way. In this model, Dr. Scurich also failed to include the appropriate transformation of prior convictions and mitigating circumstances.

In summary, Dr. Scurich's tests are unreliable because he committed two crucial errors when conducting these analyses. The findings presented in Table D above show that correcting the three data entry errors does not meaningfully alter the significance of the race of the defendant. Below, we show that the race of defendant effect is robust (consistent) when these errors are avoided across a variety of model specifications, including those advocated by Dr. Scurich.

The Regression Results are Robust Across Numerous Model Specifications

Below, we show that the regression results continue to indicate that juries are significantly more likely to impose death sentences in cases involving Black defendants in each of the model variants he advocates, contrary to his claims. Specifically, the regression results indicate that Black defendants are significantly more likely than other similarly situated defendants to be sentenced to death when:

- Black defendants are compared to White Defendants rather than to non-Black defendants;

- Victim race (measured in a way that does not result in dropping large numbers of cases) is included in the model; and

- Victim and county characteristics are included in the models.

In each case, the regression results indicate that the impact of race of defendant is a statistically significant one, and that the magnitude of the effect of the race of the defendant is large (i.e. Black defendants are consistently found to be more than four times more likely to be sentenced to death than similarly situated others). The P-values associated with this finding range from .015 to .053.[63]

Comparing Black and White Defendants: Race of Defendant Effects are Still Significant

Dr. Scurich asserts that Black defendants should be compared to White defendants and that defendant race should be measured in three categories (Black, White and Other) rather than as a binary category of Black/Non-Black. We maintain that our use of the Black/non-Black categories was appropriately rooted in the literature on the role of race in capital trials. Nevertheless, for the sake of argument, we disprove his claim that "when black defendants are compared to white defendants and other-race defendants individually, as opposed to white and other-race defendants combined, the race of the defendant is not related to receiving a death sentence" (Scurich at 3).

As noted previously, the statistical output Dr. Scurich provides in his Appendix B1 (pp. 61-64) showed that Dr. Scurich failed to transform (i.e. log) skewed variables, namely, prior convictions and mitigating circumstances. We show below that defendant race remains significant when Black defendants are compared to White defendants and these errors are avoided.

In order to compare Black defendants to White defendants (as well as Other Race defendants to White defendants), we included three dummy variables for defendant race (measured as Black, White, or Other Race). Following conventional practice, we include two of these categories at a time, using the excluded category as a referent. In these models, the appropriate data transformations are performed. We present the regression results in Table E below.

[63] In the twelve models presented in the body of this document, the p-values range from .018 to .053. In the very parsimonious model presented in Appendix A, the p-value is .015.

Table E. Impact of Case Characteristics and Defendant Race on Capital Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014				
N= 77	Death Penalty Imposed			Pseudo R^2 = 0.2373 LR chi2(8) = 24.95 Prob > chi2 = 0.0016
Variable	Coefficient	Exact P-Value	Odds Ratio	90% Confidence Interval
Prior Convictions (ln)	-0.095	0.498	0.909	-.324, .135
1 Victim	-0.720	0.223	0.487	-1.69, .251
Applied Aggravators	0.629	0.016	1.876**	.200, 1.06
Mitigating Circumstances (ln)	-0.263	0.086	0.769*	-.515, -.011
Defenses	-0.786	0.037	0.456**	-1.41, -.165
Victim Held Hostage	0.704	0.235	2.022	-.271, 1.68
Black Defendant (vs. White Defendant)	1.557	0.045	4.743**	.282, 2.83
Other Race Defendant (vs. White Defendant)	-0.125	0.890	0.883	-1.60, 1.36

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

Note: In this model, five cases (6.1%) were missing data and were therefore dropped from the analysis.

As Table E shows, when Black Defendants are compared to White Defendants (specified as the referent category), the odds ratio for Black defendants is are 4.743 (meaning that Black defendants are 4.7 times more likely that White defendants to receive a death sentence, p=0.045).[64] Note that the confidence interval for this variable does not include zero, providing further confirmation of the significance of this finding. (The unaltered statistical output associated with this model is provided in Appendix C, Table C6 on p. 80). *Thus, Dr. Scurich's claim that race of defendant is no longer significant when Black defendants are compared to White defendants is incorrect.*

Including Race of Victim: Race of Defendant Effects are Still Significant

Dr. Scurich further claims that when race of victim is included in the model with race of defendant, the effect of defendant race is no longer significant (p. 3). We show below that this is incorrect.

Dr. Scurich notes that we highlighted that numerous studies on capital punishment find that race of the victim is statistically associated with receiving a death sentence. He subsequently claims that we nonetheless "did not include race of the victim" during model testing (Scurich at

[64] Other defendants do not statistically significantly differ from White defendants (p=0.878).

24). We indeed tested for this effect and included the results of this model in Appendix Table E4 (see p. 44 of our report). In Table E4, we indicated that the log odds coefficient for Victim Race (measured as all Victim(s) were White/Not all Victims were White) is -0.399 and not statistically significant (p=0.595.)

Table F below shows the results that are obtained when both race of defendant and race of victim are included in the same model. Specifically, they show that Black defendants are 4.5 times more likely to receive a death sentence than non-Black defendants (p=0.053) when victim race and six case characteristics are included in the model. The results also continue to indicate that the race of the victim is not a significant predictor of receiving a death sentence (p=0.580). This finding suggests that defendants in cases in which all victims are White are not treated differently than those whose victims are not exclusively White. The statistical output associated with this table is shown in Table C7 Appendix C (see pp. 81-2).

Table F. Impact of Case Characteristics, Defendant Race and Victim Race on Capital Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

N= 77	Death Penalty Imposed			Pseudo R^2 = 0.2421 LR chi2(8) = 25.46 Prob > chi2 = 0.0013
Variable	Coefficient	Exact P-Value	Odds Ratio	90% Confidence Interval
Prior Convictions (ln)	-0.087	0.528	0.916	-.315, .140
1 Victim	-0.653	0.274	0.520	-1.63, .328
Applied Aggravators	0.646	0.013	1.908**	.216, 1.08
Mitigating Circumstances (ln)	-0.253	0.103	0.777	-.508, .002
Defenses	-0.737	0.050	0.478*	-1.36, -.118
Victim Held Hostage	0.746	0.206	2.108	-.224, 1.72
Black Defendant (vs. non-Black Defendant)	1.511	0.053	4.529*	.227, 2.79
White Victims (vs. non-White Victims)	-0.545	0.469	0.580	-1.78, .693

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

Note: In this model, five cases (6.1%) were missing data and were therefore dropped from the analysis.

To summarize: the results presented in Table F indicate that when the appropriate transformation of number of prior convictions and number of mitigating circumstances is undertaken, and victim race (measured in a way that includes all relevant cases rather than a

subset of cases in the analysis) are included in the model, Black defendants are 4.5 times more likely to receive a death sentence from a jury in Washington State compared to non-Black defendants (p=0.053). Thus, it is not true that adding race of victim to the model renders the race of defendant effect non-significant.

In what follows, we show that the regression results similarly indicate that Black defendants are more than four times more likely than non-Black defendants to be sentenced to death when the model includes case characteristics that are significant predictors of sentencing outcomes in the models presented above and either a) victim characteristics or b) county characteristics.[65]

Including Victim and County Characteristics: The Race of Defendant Effects are Still Significant

Dr. Scurich argues throughout his critique that the race of defendant is not significant if the regression model is varied slightly. This is incorrect. In Tables G and H below, we show the coefficients and associated P-values that are obtained under ten different model specifications. These models include only those case characteristics that have been shown in previous models to be significant (i.e. the number of aggravating circumstances found by the jury; the (logged) number of mitigating circumstances, and the number of defenses offered); defendant race; and various victim and county characteristics. As we noted in our report, not all of these factors can be included simultaneously in the analysis of jury decision-making because the (relatively small) number of cases reduces the number of variables that can be included in the models at one time. For this reason, each of the victim and county characteristics is tested separately (but in combination with significant case characteristics and defendant race). The unaltered statistical output associated with all ten of these models is shown in Appendix C beneath the associated tables.

[65] These tables replicate many of the models shown in Appendix E of our report except that they correct for data entry errors.

Table G. Impact of Significant Case Characteristics, Defendant Race and Victim Characteristics on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014					
	Death Penalty Imposed				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)
Applied Aggravators	**1.88*** (p=.007)**	**1.88*** (p=.008)**	**1.94*** (p=.006)**	**1.88*** (p=.007)**	**1.93*** (p=.005)**
Mitigating Circumstances (ln)	0.85 (p=.228)	0.82 (p=.156)	0.84 (p=.204)	0.85 (p=.228)	0.88 (p=.365)
Defenses	**0.47** (p=.029)**	**0.48** (p=.033)**	**0.46** (p=.028)**	**0.47** (p=.036)**	**0.44** (p=.027)**
Black Defendant	**4.79** (p=.030)**	**4.28** (p=.049)**	**5.64** (p=.021)**	**4.79** (p=.030)**	**7.25** (p=.017)**
White Victim(s)		0.596 (p=.468)			
Female Victim(s)			0.49 (p=.194)		
Child Victims				1.07 (p=.919)	
Victim(s) Stanger					0.37 (p=.120)
Pseudo R^2	.2034	.2137	.2193	.2034	.2355
Prob > chi2	.0002	.0003	.0002	.0005	.0001
N	80	79	80	80	78

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

In this table, all significant results are bolded. The results presented in Table G above show that when we include victim characteristics, (logged) mitigating circumstances are no longer significant. *By contrast, the race of the defendant remains significant across all five of the models tested here. Specifically, the results indicate that Black defendants are between 4.3 and 7.3 times more likely to be sentenced to death than non-Black defendants controlling for the other variables included in the model.* None of the victim characteristics tested in these models appear to be significant predictors of sentencing outcomes in capital cases in Washington State.

Table H shows below the results that are obtained when a various county characteristics are included in the model.

Table H. Impact of Significant Case Characteristics, Defendant Race and County Characteristics on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014					
	Death Penalty Imposed				
	Model 6	**Model 7**	**Model 8**	**Model 9**	**Model 10**
	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)
Applied Aggravators	**1.88*** (p=.007)**	**1.94*** (p=.007)**	**1.85** (p=.010)**	**1.89*** (p=.007)**	**1.91*** (p=.007)**
Mitigating Circumstances (ln)	0.85 (p=.228)	0.85 (p=.234)	0.82 (p=.151)	0.85 (p=.215)	0.86 (p=.273)
Defenses	**0.47** (p=.029)**	**0.46** (p=.027)**	**0.47** (p=.045)**	**0.4** (p=.029)**	**0.46** (p=.030)**
Black Defendant	**4.79** (p=.030)**	**4.37* (p=.051)**	**4.46** (p=.049)**	**4.71** (p=.033)**	**4.85** (p=.027)**
Percent Black in County at Year of Sentencing		1.05 (p=.659)			
Percent County Voted Republican			**0.94* (p=.062)**		
Densely Populated at Year of Sentence				1.000 (p=.739)	
Per Capita Revenue in 1981 Real Dollars (ln)					0.45 (p=.378)
Pseudo R^2	.2034	.2051	.2369	.2044	.2111
Prob > chi2	.0002	.0004	.0001	.0005	.0003
N	80	80	80	80	80

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

The results presented in Table H above show that the race of the defendant remains significant across all five of the models tested here (with p-values ranging from .027 to .051). In these models, the results indicate that Black defendants are from 4.4 to 4.9 times more likely to be sentenced to death than non-Black defendants after controlling for the other factors included in the model. Only one of the county characteristics tested in these models appears to be a significant predictor of sentencing outcomes in capital cases in Washington State: the percent of the county population that voted Republican in the Presidential election that most closely preceded the sentencing date of the case in question. This variable was tested because studies often find that the political orientation of jurisdiction in which cases are adjudicated influences outcomes, with juries in more conservative jurisdictions imposing harsher sentences.[66] In this

[66] See, for example, David Jacobs and Michael T. Carmichael, *Ideology, Social Threat, and the Death Sentence: Capital Sentences across Time and Space,* SOCIAL FORCES 83, 1: 249-78 (2004).

case, the result is in the opposite direction.[67] However, the critical point here is that the inclusion of this significant predictor in the model does not meaningfully reduce the significance and magnitude of the effect of the race of defendant in the sentencing phase of capital cases.

Table I provides a summary of the results associated with the thirteen models presented in this document (twelve in the body of this response and another in Appendix A). As the table shows, the odds ratio associated with Black defendant is consistently greater than four, meaning that Black defendants are found to be more than four times more likely than others to be sentenced to death. The p-values associated with the underlying coefficients range from .015 to .053.

[67] In this case, the odds ratio is .94 which, because it is less than 1, suggests an inverse relationship.

Table I. Summary of Odd Ratios and P-Values for Black Defendant Across 13 Models				
Model Features	Black Defendant Odds Ratio	Black Defendant Exact P-Value	Total Number of Variables Included in Model	Source
Black Defendant Compared to Non Black Defendants	4.82	.040	7	Table D
Black Defendant Compared to Non Black Defendants	4.64	.034	4	Table G Model 1
Black Defendant Compared to Non Black Defendants	4.80	.015	3	Appendix A Section IV
Black Defendant Compared to White Defendants	4.74	.045	8	Table E
Including White Victims	4.53	.053	8	Table F
Including White Victims	4.28	.049	5	Table G Model 2
Including Female Victims	5.49	.024	5	Table G Model 3
Including Child Victims	4.64	.034	5	Table G Model 4
Including Victim Stranger	7.09	.018	5	Table G Model 5
Including Percent Black in County at Year of Sentencing	4.28	.054	5	Table H Model 7
Including Percent County Voted Republican	4.36	.053	5	Table H Model 8
Including Population Density at Year of Sentence	4.56	.038	5	Table H Model 9
Including Per Capita Revenue in 1981 Real Dollars	4.72	.030	5	Table H Model 10

CONCLUSION

Dr. Scurich's argument that our data, analyses and regression results are unreliable is incorrect. In fact, the data are reliable, and both the descriptive data and the regression results indicate that death-eligible Black defendants are significantly more likely than similarly situated non-Black defendants to receive a death sentence.

As we emphasized in our report, the number of cases included in our regression analyses of jury decision-making is relatively small and the results should therefore be interpreted with caution (see p. 17 and p. 34). Moreover, we agree with the ASA's recent statement on P-values, which emphasizes that "scientific conclusions and business or policy decisions should not be based only on whether a p-value passes a specific threshold."[68] And, as we have noted, P-values are even less important when populations (rather than samples) are analyzed.[69] Indeed, it is appropriate to consider both the substantive meaning of the regression results (which consistently indicate that juries are *more than four times more likely to impose death sentences when defendants are Black*) and their relationship to the descriptive data.

In this case, the descriptive data show that juries sentence a far larger share of death-eligible Black defendants (64.3 percent) to death than they do non-Black defendants (38.8 percent), and provide little reason to suspect that this large racial disparity is the result of differences in case characteristics. Although the data set is small, *the regression results are remarkably robust, consistently indicating that Black defendants are more than four times more likely to receive a death sentence after controlling for relevant case characteristics across a variety of model specifications*. Contrary to Dr. Scurich's claim, findings regarding the (appropriate) confidence intervals associated with these regression models do not undermine confidence in these findings. The effect of the race of the defendant on sentencing outcomes remains consistent when Black defendants are compared to White defendants and when information about the race of the victim is included in the models. Similarly, inclusion of neither victim nor county characteristics in the regression models notably alters this effect. The p-values associated with these regression results and another very parsimonious model presented in Appendix A range from .015 to .053.

It is our opinion that together, these descriptive and statistical findings provide strong, consistent, and compelling evidence that jury decision-making in capital cases in Washington State has been notably influenced by the race of the defendant.

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[68] Ronald L. Wallerstein and Nicole A Lazaar, *The ASA's Statement on P-Values: Context, Process and Purpose*, THE AMERICAN STATISTICIAN 70, 2: 129-133 (2016), at 131.

[69] Alberto Abadie Susan Athey Guido W. Imbens Jeffrey M. Wooldridge, FINITE POPULATION CAUSAL STANDARD ERRORS, Working Paper 20325 http://www.nber.org/papers/w20325

IV. APPENDIX A. NOTES ON HYPOTHESIS TESTING, P-VALUES, CONFIDENCE INTERVALS AND POWER ANALYSES

There has been considerable debate recently over the use (and mis-use) of statistical tests, P-values, and confidence intervals to draw inferences from regression results. We entirely agree with Dr. Scurich's assertion that regression results should be interpreted carefully and in the context of a number of data characteristics and model parameters. It is precisely for these reasons that we interpret our findings in light of multiple indicators of racial disproportionality of death sentences in Washington State. Below, we briefly review what each of these statistical indicators represents, discuss how they should be interpreted, and explain why we made the methodological choices we did.

Hypothesis Testing

Social scientists often gather information from previous studies to develop hypotheses about the impact variables may have on an outcome. The hypothesis that there is no statistical correlation between two variables is called the "null hypothesis", often abbreviated as H_o. The null hypothesis is true if the observed data do not differ from what would be expected on the basis of chance. The complement of the null hypothesis is the "alternative hypothesis," abbreviated as H_A. Together, these hypotheses encompass all possible outcomes and must be mutually exclusive.

Statistical tests allow us to test the validity of the alternative hypothesis by testing whether to reject the null hypothesis. When conducting statistical tests, there is always some chance of reaching the incorrect conclusion. There are two types of errors:[70]

Type I Error: H_o is rejected even though it is true (a false positive).

Type II Error: H_A is not rejected even though it is false (a false negative).

The acceptable level of a Type I error is designated by researchers by alpha (α), while the acceptable level of Type II error is designated by beta (β). Alpha represents the significance level, that is, the acceptable risk of committing a Type I error. The alpha or significance level used is determined at the outset of a study. A conventional alpha level (and the alpha level automatically provided by most statistical software) is 0.05, or α=.05. When samples are analyzed, setting alpha at .05 means that researchers are willing to accept the fact that in 5 out of every 100 analyses, they may reject the null hypothesis even though it is true. Setting an

[70] Dr. Scurich also provides a discussion of these error types on page 89 and in footnote 43 of his critique.

alpha level at .10 means accepting the fact that in 10 out of every 100 samples we may reject the null hypothesis even though it is true.

Different studies warrant different alpha levels. For example, in medical studies seeking to quantify benefits from a new drug that may also have high health risks, researchers may adopt a stricter threshold, often α=.001, because the consequences of a false positive are potentially quite severe. Thus, the significance threshold is in part determined by the context and purpose of the study.

Dr. Scurich argues that setting an alpha level at .10 creates an unacceptably high risk of a false positive.[71] In this case, a false positive would mean wrongly concluding that the race of the defendant had a significant impact on the likelihood that defendants are sentenced to death. We disagree that setting alpha at .10 is unacceptably risky, for four reasons.

First, when populations rather than samples are analyzed, p-values are less important because the results are not used to draw inferences or generalize to other populations. Second, it is arguable on ethical (and Constitutional) grounds that the risk of *missing* the significance of race in the context of capital sentencing is greater than the risk of a false positive, that is, believing that the race of defendant matters when it does not. Third, setting the alpha level at .10 is standard practice in this research area: studies of capital sentencing published in highly regarded and peer-reviewed journals include an alpha level of .10.[72] Finally, social scientists often identify the appropriate threshold for determining significance based on whether researchers are testing two-tailed (non-directional) or one-tailed (directional) hypotheses. In this case, the primary hypothesis being tested is one-tailed, or directional, and therefore paired with an alpha level of .10. The rationale for this is described below.

Two-Tailed and One-Tailed Hypothesis Testing

Before conducting a test, researchers define their hypotheses and set a significance level (α) that identifies the critical region within a theoretical sampling distribution corresponding to the rejection of the null hypothesis. Thus, the significance level is the probability of rejecting the

[71] See Scurich critique pages 88-89 and footnote 43.

[72] See, for example, David C. Baldus, Catherine M. Gross, George Woodworth and Richard Newell, *Racial Discrimination in the Administration of the Death Penalty: The Experience of the United States Armed Forces (1984-2005)*, JOURNAL OF CRIMINAL LAW & CRIMINOLOGY 101, 4: 1227-1336 (2012); John Donahue III, *Empirical Evaluation of the Connecticut Death Penalty System Since 1973: Are There Unlawful Racial, Gender and Geographic Disparities?* JOURNAL OF EMPIRICAL LEGAL STUDIES 11, 4: 637-96 (2014).

null hypothesis when it is true (i.e., committing a Type I error.) The null hypothesis is rejected if the test statistic falls within the critical region. Critical regions may lie at either end of the distribution (i.e. in the tails) or may be concentrated at one end of the distribution (in the right or left tail). The cut-off point of the critical region corresponds to the decision to test non-directional or directional hypotheses (also known as two-tailed or one-tailed tests).

Two-tailed hypothesis testing does not specify a direction for the test. For example, in a study of the role of race in capital sentencing employing a two-tailed test, a null hypothesis would be that there is no difference in likelihood of receiving a death sentence in Washington State for Black versus non-Black defendants. Structurally, a two-tailed hypothesis would appear as follows:

H_o: $\beta_{\text{Black Defendants}} = \beta_{\text{NonBlack Defendants}}$

H_A: $\beta_{\text{Black Defendants}} \neq \beta_{\text{NonBlack Defendants}}$

By contrast, one-tailed hypothesis testing specifies a direction of the statistical test. For example, one of the questions we set out to investigate in this report was: are Black defendants more likely to receive a death sentence than non-Black defendants with similar case characteristics? Based on the literature reviewed in our report, we hypothesized that if the race of defendant has an impact on capital sentencing, Black defendants will be more likely than non-Black (or White) defendants to be sentenced to death rather than vice versa (see pp. 5-12). This is an example of a directional hypothesis.

More formally, for this research study, our hypotheses regarding race of defendant are:

H_o: $\beta_{\text{Black Defendants}} \leq \beta_{\text{NonBlack Defendants}}$

H_A: $\beta_{\text{Black Defendants}} > \beta_{\text{NonBlack Defendants}}$

If the critical region lies at both ends of the distribution (two-tailed test), then the cut-off point of alpha=.05 places 2.5 percent of the region at the left tail and 2.5 percent at the right end of the distribution. (See Figures A1 and A2 below.) If the critical region is concentrated at one end of the distribution, as it is in a one-tailed test, then all 5 percent of that area lies in one tail of the distribution. A conventional means of assessing the whether the P-value falls within the critical region is to divide the P-value by 2. An alternative method and the one we used) is to set the significance level at α=.10 (rather than .05) and only reject the null hypothesis if the association between variables is in the direction predicted by the alternative hypothesis.

Figure A1. Two-tailed Critical Region Indicated on Normal Probability Distribution

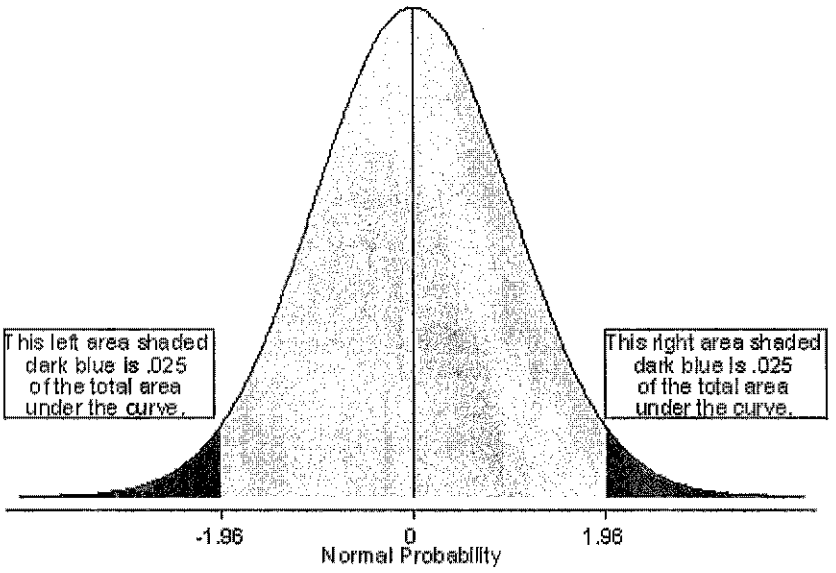
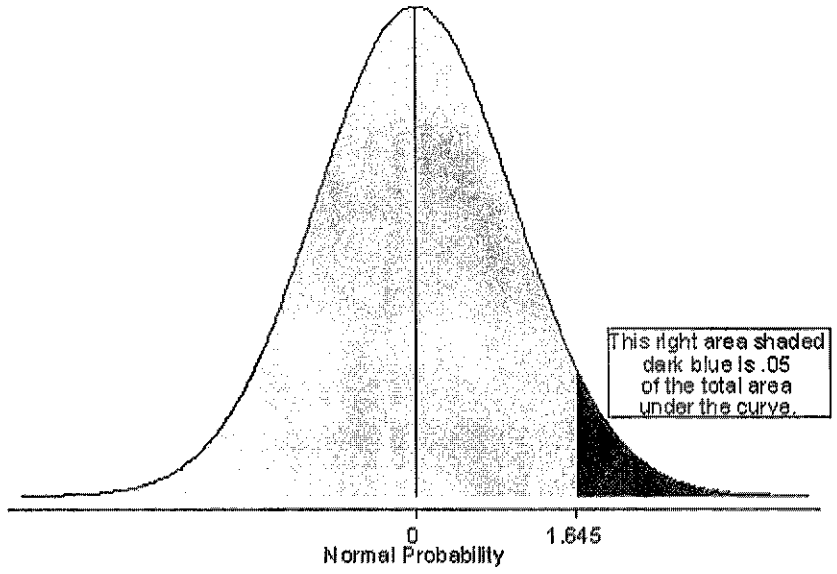


Figure A2. One-tailed Critical Region Indicated on Normal Probability Distribution



Throughout our study, we assess the significance of P-values in relation to both the conventional α=.05 and, in accordance with our directional hypothesis, α=.10. Criticisms of employing one-tailed tests stem from concerns that researchers will adjust alpha levels after the analysis, rather than before, to amplify their results and thus make their work more suitable for publication. For this reason, it is generally recommended to report exact p-values produced by a two-tailed test and assess their significance in accordance with a pre-set alpha level.[73] In both our report and in this response, we stated our alpha level in advance and provided a rationale for it. In addition, in the appendix of our report and throughout this response, we provide exact p-values so that readers can draw their own conclusions regarding where the p-values fall on the continuum of alpha levels used by researchers.

P-VALUES

Simply put, the probability value, or p-value, is the probability of finding the observed results when the null hypothesis is true. Thus, the p-value is used to test the null hypothesis. If the p-value less than alpha, then we reject the null hypothesis.[74]

Dr. Scurich insists that alpha significance levels (i.e. p-values) should be set at .05 and provides several citations of published articles on the matter.[75] Interestingly, all of the materials he cites discuss the problems associated with establishing "bright line" cut-offs or significance thresholds that provide a "one size fits all" solution to determining significant findings without taking into context the data, study design and purpose, and model parameters. Indeed, the 2016 statement by the American Statistical Association on this matter states:

> Scientific conclusions and business or policy decisions should not be based only on whether a P-value passes a specific threshold. Practices that reduce data analysis or scientific inference to mechanical "bright-line" rules (such as "p < 0.05") for justifying scientific claims or conclusions can lead to erroneous beliefs and poor decision-making. A conclusion does not immediately become "true" on

[73] Pillemer, David, *One-versus Two-Tailed Hypothesis Tests in Contemporary Educational Research*, EDUCATIONAL RESEARCHER, 20, 9: 13-17 (1991); Ringwalt, C., Paschall, M. J., Gorman, D., Derzon, J., & Kinlaw, A., *The use of one-versus two-tailed tests to evaluate prevention programs*, EVALUATION & THE HEALTH PROFESSIONS 34, 2: 135-150 (2011); Agresti, A. and B. Finlay, *One-sided alternative hypotheses,* STATISTICAL METHODS FOR THE SOCIAL SCIENCES (Upper Saddle, NJ: Prentice Hall, 1997, 3rd edition) at 165-166.

[74] Greenland, Sander, et al. *Statistical tests, P values, confidence intervals, and power: a guide to misinterpretations*. EUROPEAN JOURNAL OF EPIDEMIOLOGY: 1-14 (2016), at page 3.

[75] See Scurich critique, footnote 17, which "cite[s] voluminous authorities who claim that p <.05 – not p <.10 – is the conventional threshold in social science" (see page 22).

> one side of the divide and "false" on the other (quoted in Scurich critique, p. 22).[76]

It is ironic that Dr. Scurich quoted this passage, but then proceeded to dismiss as non-significant his own finding that Black defendants were more likely than others to be sentenced to death after controlling for case characteristics – when this finding was associated with a p-value of .053, which is, of course, extremely close to the alpha=.05 level he advocates.[77]

The 2016 ASA statement on P-values motivated a number of scholars to publish additional clarifications of how to use and interpret statistical tests in their fields. As one set of epidemiologists note, the ASA statement was not meant to establish a firm and inflexible rule, but rather criticize the reductionist approach of strictly adhering to .05. Among the "misinterpretations" they identify is the following:

> *One should always use two-sided P-values*—No! Two-sided *P*-values are designed to test hypotheses that the targeted effect measure equals a specific value (e.g., zero), and is neither above nor below this value. When however the test hypothesis of scientific or practical interest is a one-sided (dividing) hypothesis, a one-sided *P*-value is appropriate.[78]

In short, we heartily agree that over-reliance on a single test statistic, rigidly assessed according to arbitrary, albeit conventional, standards is not good research practice. It is precisely for these reasons that we consistently emphasize the relationship between variables (direction and substantive impact) and provide exact p-values[79] as well as asterisks that reflect the significance

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[76] Wasserstein, R.L., & Lazar, N.A. *The ASA's statement on P-Values: Context, Process, and Purpose.* THE AMERICAN STATISTICIAN 70(2), 129-131 (2016), at 131.

[77] Dr. Scurich presents raw statistical output showing the regression coefficient for Black defendants is 1.456 (4.5 times more likely than nonblack defendants) with a corresponding p-value of 0.053 on pp. 26-27.

[78] Greenland, Sander, et al., *Statistical tests, P values, confidence intervals, and power: a guide to misinterpretations*, EUROPEAN JOURNAL OF EPIDEMIOLOGY: 1-14 (2016), at 5.

[79] This is the most transparent approach and one that prevents researchers from telling readers which results are "significant" and instead allows the reader to determine for themselves. As Pillemer argues, "As a first step towards deemphasizing the .05 level as an ultimate benchmark, journal editors should discourage statistical reporting that focuses on this criterion only. Researchers should routinely present effect sizes accompanied by confidence intervals or, when a focus on significance levels is appropriate, exact two-tailed probabilities for all major statistical comparisons within a study. Editors and readers could then weigh the relative importance of effect size, significance level, and, if they so choose, one- versus two-tailed probabilities within the context of the

level in relation to pre-determined alpha levels so that readers may draw their own conclusions as to the validity and importance of each variable.

Below, we provide a brief discussion of confidence intervals and the information they provide.

CONFIDENCE INTERVALS

Confidence intervals are a range of values in which a point estimate (regression coefficient) falls. Importantly, the bounds of confidence intervals are determined by the alpha significance level. End points are determined as follows: 100 (1-α) % = confidence interval. Thus, if α=.05, then a researcher reports 95 percent confidence intervals for all variables in the model.[80] If, however, α=.1, then 90 percent confidence intervals are reported.

Dr. Scurich cites the ASA statement on p-values and other sources to argue that we inappropriately failed to provide confidence intervals that show that the regression results are unreliable (see p. 23). However, this argument is invalid, for several reasons. First, reporting P-values rather than confidence intervals remains standard practice in both sociology and criminology.[81] Second, our discussion emphasized the direction and substantive meaning of the coefficients (i.e. that Black defendants are more than four times likely to receive a death sentence than Non-Black defendants after controlling for relevant case characteristics) rather than the p-values associated with these coefficients (see, for example, p. 30 and p. 33 of our report). Third, and most importantly, use of a 95 percent confidence interval (which Dr. Scurich utilizes to suggest that the regression results are unreliable) is inappropriate when the $p < .1$ threshold is used. Instead, when directional hypotheses are tested and the $p < .1$ threshold is

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overall pattern of results." Pillemer, David, *One- versus Two-Tailed Hypothesis Tests in Contemporary Educational Research*, EDUCATIONAL RESEARCHER 20, 9: 13-17 (1991) at 16.

[80] Pillemer, David, *One-versus Two-Tailed Hypothesis Tests in Contemporary Educational Research*, EDUCATIONAL RESEARCHER, 20(9), 13-17 (1991) at 16.

[81] We reviewed the most recent volumes available online of the two top sociology journals (THE AMERICAN SOCIOLOGICAL REVIEW (ASR) and THE AMERICAN JOURNAL OF SOCIOLOGY (AJS)) and the leading criminology journal (CRIMINOLOGY). The June volume of the ASR included five articles that used statistical regression. In all five of these, the authors reported P-values and not confidence intervals. The July volume of AJS similarly included five articles in which regression techniques were utilized; in all five of these, P-values and not confidence intervals were presented. The May volume of CRIMINOLOGY also included five articles in which regression methods were used; all five included P-values, and one of these also provided confidence intervals. This review took place on July 29, 2016; the journals reviewed were the latest that were available electronically through the University of Washington library system.

used, then 90 percent confidence intervals should be utilized.[82] In the body of this response and in Appendix C, we include confidence intervals for all variables included in the regression models. However, consistent with our directional hypotheses, which set the alpha level at .1, we present 90 percent confidence intervals [100 (1 - .10)%] for all of our results.

In addition, one important correction must be made to Dr. Scurich's comment about interpreting confidence intervals for log odds coefficients. On page 23, Dr. Scurich states:

> ... the following analyses all include confidence intervals around the estimate of the effect size, which appears in the column "Exp(B)." The Exp(B) refers to the exponentiation of the logarithmic (natural log) beta parameter. In short, it is an odds ratio. A ratio greater than 1 indicates the increase in odds of an outcome (e.g., death sentence) associated with a one unit increase in a given predictor.[19] If the 95% confidence interval for Exp(B) contains the value 1, it indicates that the associated odds ratio could be 1:1. In other words, the variable neither increases nor decreases the likelihood of the dependent variable. *Thus, when a confidence interval includes the value of 1, the variable is interpreted as not being "significantly" predictive of the dependent variable.*

In fact, Dr. Scurich does not report odds ratios. Instead, his reported coefficient values are log odds.[83] The distinction is that for odds ratios, any value greater than 1 indicates a positive association, any value less than 1 indicates a negative association, and a value of (or very close to) 1 indicates no association (because 1:1 odds means there is an equal chance of either outcome.) Log odds, on the other hand, produce coefficients that when positive indicate a positive relationship, when negative indicate a negative relationship, and a value of (or very close to) 0 indicates no association. Thus an odds ratio can never be negative, whereas a log odds coefficient may be.[84]

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[82] Confidence interval end points are calculated as follows: 100 (1-α) % = confidence interval. Pillemer, David, *One-versus Two-Tailed Hypothesis Tests in Contemporary Educational Research*, EDUCATIONAL RESEARCHER 20(9), 13-17 (1991) at 16.

[83] We present both log odds and odds ratios. We are certain that Dr. Scurich reports log odds because many of the coefficients he presents are negative. For example, see the output he presents on page 23 of his critique with negative coefficients for 'Victim1_vs_multi(1)', 'Defenses_Num' and 'D_RaceOrdinal(1)'. Odds ratios cannot be negative.

[84] Agresti, A. and B. Finlay, STATISTICAL METHODS FOR THE SOCIAL SCIENCES (Upper Saddle, NJ: Prentice Hall, 1997) at 268-272; Long, S. and J Freese, REGRESSION MODELS FOR CATEGORICAL DEPENDENT VARIABLES USING STATA (College Station, Texas: StataCorp LP,2006), at 177-180.

This is important because it shows why Dr. Scurich's claim that if the confidence interval includes the value of 1, the variable is interpreted as not being "significantly" predictive of the dependent variable, is incorrect. When log odds coefficients are presented, *it is only when the confidence interval includes the value of 0 that the variable should be interpreted as not being a significant predictor of the dependent variable.*

POWER ANALYSIS

In our report, we warned that when sample sizes are small, logistic regression results must be interpreted with caution.[85] As we discussed previously, researchers work to minimize the risk of two types of error. Type I errors (sometimes called false positives) are associated with inappropriately rejecting the null hypothesis, that is, finding a significant effect of an independent variable (such as defendant race) on the dependent variable (such as the imposition of a death sentence) when there is not one. The second type of error, are Type II errors, sometimes called false negatives. A Type II error occurs when researchers fail to reject the null hypothesis because they do not find a significant effect when one actually exists.

Dr. Scurich discusses Type II errors, warning that "if a study is completely underpowered, it could not detect an effect even if such an effect exists."[86] Clearly, this is not a problem in this analysis. We consistently find, across many model variations, that Black defendants are more likely to be sentenced to death in Washington State than similarly situated non-Black defendants. However, Dr. Scurich also asserts that although a defendant race effect is identified in the analysis, the results "may not be reliable"[87] as a result of having a low powered study. In other words, Dr. Scurich argues that regression analyses of small data sets can also produce Type I errors (false positives).[88]

We agree that a small number of cases is not ideal for logistic regression when results are intended to be generalized to or draw inferences about other populations. This concern does not apply to our analysis: these data are not a sample taken from a larger pool of cases, but

[85] See p. 17 and p. 34.

[86] Scurich critique at 89.

[87] Scurich critique at 92.

[88] To support this contention, Dr. Scurich cites a study of research conducted in the field of neuroscience in which the authors examine problems of replicability of small studies. It is important to note, however, that when these authors discuss replicability, they are not referring to replicating the same results with the same data. Instead, they are referring to the ability to replicate findings *using different (small) data sets.* Button, K.S. et al., *Power Failure: Why small sample size undermines the reliability of neuroscience,* NATURE 2013(14): 365-376 at 376.

rather encompass the entire population under study.[89] These data comprise all available Trial Reports for special sentencing proceedings in Washington State under the current statute.

When conducting logistic regression analysis on a relatively small number of cases, it is of utmost importance to guarantee that small changes in model specification do not have undue influence on the results. It is precisely for this reason that we conducted rigorous model testing (or what he calls sensitivity analysis) to determine what, if any, minor changes might impact the race of defendant effect. We undertook this process not to "cherry pick" or "p-hack" our findings,[90] but rather to assess whether the finding regarding the impact of the race of the defendant is robust regardless of differing model parameters, variable omissions, or controls included in the analysis. We also performed rigorous diagnostics, including testing for leverage and influence to guarantee that no single (or few cases) were driving the results.[91] However, regardless of how the model is specified, we find that Black defendants are more than four times more likely to be sentenced to death in Washington State compared to similarly situated non-Black (or White) defendants.

Many of the models we tested were presented in Appendix E rather than the body of our report. This was not an effort to conceal findings or to selectively present only those findings which showed race of defendant effect to be significant: all of our models found race of defendant effect to be significant. However, we did endeavor to find the most parsimonious model (the model with the fewest variables) possible that also included (or controlled for) all relevant case characteristics, and presented these models in the body of our report.

Seeking the most parsimonious model possible is standard and ethical practice in the social sciences, and is discussed at length by the authors of what Dr. Scurich describes as "*the* authoritative text on logistic regression" (Scurich at 85).[92] The same authors also address what

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[89] Agresti, A. and B. Finlay, STATISTICAL METHODS FOR THE SOCIAL SCIENCES, 3rd Ed (Upper Saddle, NJ: Prentice Hall, 1997) at 5-7.

[90] Dr. Scurich states: "in reality, the true p-value is likely to be much greater given the amount of p-hacking that occurred" (89). For more accusations of p-hacking, see also Scurich critique at 29, 87, 94, and 95.

[91] Examination of Standardized Pearson Residuals, Deviance Residual, and leverage plots indicated that one case may have been an outlier. However, removing this case from the analysis had little effect on the results. Specifically, after removing this case, the coefficient for Black defendant was 1.51 (4.54 times more likely than non-Black defendants to be sentenced to death after controlling for case characteristics and defendant race) with a p-value of 0.049. When the case is included, the coefficient for Black defendant was 1.573 (4.819 times more likely than non-Black defendants to be sentenced to death after controlling for case characteristics and defendant race) with a p-value of 0.040. All results presented in this report include this case.

[92] "It is standard practice in the social sciences to find the most parsimonious model possible in order to avoid "over fitting" that "produces numerically unstable estimates... The criteria for including a variable in a model may vary from one problem to the next and from one scientific discipline to another. The traditional approach to

is known as the "rule of 10," or the practice of roughly calculating power by limiting a model to one covariate (independent variable) for every ten cases.[93] This is a guiding principle for model specification. In discussing logistic regression models, Hosmer and Lemeshow argue that the most conservative approach is to limit the number of covariates to a ratio of one independent variable per ten of the least most frequent events. This practice is represented mathematically by the equation: $p+1 \leq \min(n_1, n_0)/10$ parameters.[94] If we followed the most conservative approach to model building, we would limit the regression model of sentencing decisions (which resulted in 35 death sentences) to three independent variables (10/35=3.5).

Below, we run this kind of very parsimonious model. As a reminder, the primary model we presented in our report in Table 7 indicated that the total number of applied aggravators, number of defenses, and whether the defendant was Black or non-Black were statistically significant. We present the unaltered output showing the exact coefficient estimate and 90 percent confidence intervals below.

```
Logistic regression                               Number of obs   =         77
                                                  LR chi2(7)      =      24.93
                                                  Prob > chi2     =     0.0008
Log likelihood =   -40.1168                       Pseudo R2       =     0.2371

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
     lnPriors |  -.0924963   .1383746    -0.67   0.504    -.3201023    .1351097
   Vics_lTotal |  -.7162554   .5900092    -1.21   0.225    -1.686734    .2542234
AppliedAggCir_Num |   .6320834   .2602919     2.43   0.015     .2039413    1.060226
 LnTotMitCircum |  -.2629554   .1537409    -1.71   0.087    -.5158366   -.0100741
  Defenses_Num |  -.7786086    .373912    -2.08   0.037    -1.393639   -.1635781
 Vics_AnyHostage |   .7159512   .5865402     1.22   0.222    -.2488216    1.680724
      D_RaceB |   1.572614   .7672008     2.05   0.040     .3106806    2.834547
        _cons |  -1.125554   .7699184    -1.46   0.144    -2.391957    .1408493
```

The unaltered output below shows the regression results if we include only the three independent variables that show the highest degree of significance in the model presented above (aggravating circumstances, number of defenses, and race of defendant) in an even more parsimonious model. Interestingly, the results of this extremely parsimonious model continue

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statistical model building involves seeking the most parsimonious model that still explains the data. The rational for minimizing the number of variables in the model is that the resultant model is more likely to be numerically stable, and is more easily generalized. The more variables included in a model, the greater the estimated standard errors become, and the more dependent the model becomes on the observed data." See Hosmer, D.W., & Lemeshow, S., APPLIED LOGISTIC REGRESSION (Wiley, 2000) at 92.

[93] Id at 346.

[94] Id.

to indicate that the race of defendant effect is statistically significant (p=.015). In this model, the regression coefficient is 1.7079, meaning that Black defendants are 4.8 times more likely than non-Black defendants to be sentenced to death.

```
Logistic regression                                     Number of obs   =         80
                                                        LR chi2(3)      =      20.71
                                                        Prob > chi2     =     0.0001
Log likelihood = -44.190934                             Pseudo R2       =     0.1899

------------------------------------------------------------------------------
      DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
------------------+-----------------------------------------------------------
AppliedAggCir_Num |   .6085678   .2266461     2.69   0.007     .2357682    .9813674
     Defenses_Num |  -.8345502   .3459886    -2.41   0.016    -1.403651   -.2654495
          D_RaceB |   1.707947   .7012431     2.44   0.015     .5545052    2.86139
            _cons |  -1.317285   .5629009    -2.34   0.019    -2.243174   -.3913952
------------------------------------------------------------------------------
```

In summary, Dr. Scurich raises questions about the reliability of our regression results given the number of cases that can be included in the analysis of sentencing outcomes. Specifically, he argues that small sample sizes can make it difficult to detect effects that are, in fact, present. Although this is true, the regression results nonetheless consistently indicate that the impact of the race of the defendant on sentencing outcomes in capital cases is notable and statistically significant.

At the same time, Dr. Scurich argues that researchers may also wrongly reject the null hypothesis when, in fact, it should not be rejected, when analyzing small data sets. We are aware of the imperative that researchers be cautious when analyzing small datasets. It is for this reason that we engaged in extensive diagnostics and sensitivity analysis for our report. It is also why we have presented the results of twelve different jury models in the body of this report, and a thirteenth (more parsimonious) model here. In each case, the results show that Black defendants are more than four times more likely than others to be sentenced to death, and that this difference is statistically significant.

IV. APPENDIX B. GUIDE TO STATA OUTPUT REGARDING LOGISTIC REGRESSION RESULTS

In Appendix C, we present unaltered statistical output of all the models presented in the report generated from the statistical software program Stata.[95] To assist in interpreting this output, we provide a guide below explaining each of the components of the logistic regression output.[96] An example appears below. Beneath it, we explicate the meaning of each of the elements that appear in this output.

```
Iteration 0:   log likelihood = -52.583924
Iteration 1:   log likelihood = -40.620098
Iteration 2:   log likelihood = -40.120459
Iteration 3:   log likelihood = -40.116801
Iteration 4:   log likelihood =   -40.1168

Logistic regression                                     Number of obs   =         77
                                                        LR chi2(7)      =      24.93
                                                        Prob > chi2     =     0.0008
Log likelihood =   -40.1168                             Pseudo R2       =     0.2371

------------------------------------------------------------------------------
      DP_Sentence | Odds Ratio   Std. Err.      z    P>|z|     [95% Conf. Interval]
------------------+-----------------------------------------------------------
      lnPriors    |  -.0924963   .1383746    -0.67   0.504    -.3201023    .1351097
      Vics_1Total |  -.7162554   .5900092    -1.21   0.225    -1.686734    .2542234
AppliedAggCir_Num |   .6320834   .2602919     2.43   0.015     .2039413    1.060226
   LnTotMitCircum |  -.2629554   .1537409    -1.71   0.087    -.5158366   -.0100741
     Defenses_Num |  -.7786086    .373912    -2.08   0.037    -1.393639   -.1635781
  Vics_AnyHostage |   .7159512   .5865402     1.22   0.222    -.2488216    1.680724
          D_RaceB |   1.572614   .7672008     2.05   0.040     .3106806    2.834547
            _cons |  -1.125554   .7699184    -1.46   0.144    -2.391957    .1408493
------------------------------------------------------------------------------
```

ITERATION LOG

```
Iteration 0:   log likelihood = -52.583924
Iteration 1:   log likelihood = -40.620098
Iteration 2:   log likelihood = -40.120459
Iteration 3:   log likelihood = -40.116801
Iteration 4:   log likelihood = -40.1168[a]
```

[95] Stata/MP 13.1 for Windows, Revision 10 Mar 2016.

[96] Component descriptions take from Stata Annotated Output Logistic Regression Analysis. UCLA: Statistical Consulting Group. Available at http://www.ats.ucla.edu/stat/stata/output/stata_logistic.htm (accessed July 29, 2016).

The iteration log is a listing of the log likelihoods at each iteration. Logistic regression uses maximum likelihood, which is an iterative procedure. The first iteration (called iteration 0) is the log likelihood of the "null" or "empty" model; that is, a model with no predictors. At the next iteration, the predictor(s) are included in the model. At each iteration, the log likelihood increases because the goal is to maximize the log likelihood. When the difference between successive iterations is very small, the model is said to have "converged," the iteration is stopped and the results are displayed. Note: we do not include the iteration log in the statistical output provided in the appendices of this report because it does not provide meaningful information.

MODEL SUMMARY

```
Logistic regression                     Number of obs =   77
                                        LR chi2(7)    =  24.93
                                        Prob > chi2   =  0.0008
Log likelihood =   -40.1168             Pseudo R2     =  0.2371
```

Log likelihood - This is the log likelihood of the final model. The value (in this case, -40.1168) has no meaning in and of itself; rather, this number can be used to help compare nested models.

Number of obs - This is the number of observations that were used in the analysis. This number may be smaller than the total number of observations in the data set if there are missing values for any of the variables used in the logistic regression. Stata uses a listwise deletion by default, which means that if there is a missing value for any variable in the logistic regression, the entire case will be excluded from the analysis.

LR chi2(7) - This is the likelihood ratio (LR) chi-square test. The likelihood chi-square test statistic can be calculated as 2*(-52.583924 -40.1168) = 24.93. This is negative two (i.e., -2) times the difference between the starting and ending log likelihood. The number in the parenthesis indicates the number of degrees of freedom. In this model, there are seven predictors, so there are seven degrees of freedom.

Prob > chi2 - This is the probability of obtaining the chi-square statistic if the null hypothesis is true. In other words, this is the probability of obtaining this chi-square statistic (24.93) if the independent variables have no effect, taken together, on the dependent variable. This is, of course, the p-value, which is compared to a critical alpha value, perhaps .10, .05 or .01, to

determine if the overall model is statistically significant. In this case, the model is statistically significant because the p-value is .008.

Pseudo R2 - This is the pseudo R-squared. Logistic regression does not have an equivalent to the R-squared that is found in OLS regression; however, many people have tried to come up with one. There are a wide variety of pseudo-R-square statistics. Because this statistic does not mean what R-square means in OLS regression (the proportion of variance explained by the predictors), we suggest interpreting this statistic only to compare models.

PARAMETER ESTIMATES

DP_Sentence	Coef.	Std. Err.	z	P>|z|	[90% Conf.	Interval]
lnPriors	-.0924963	.1383746	-0.67	0.504	-.3201023	.1351097
Vics_1Total	-.7162554	.5900092	-1.21	0.225	-1.686734	.2542234
AppliedAggCir_Num	.6320834	.2602919	2.43	0.015	.2039413	1.060226
LnTotMitCircum	-.2629554	.1537409	-1.71	0.087	-.5158366	-.0100741
Defenses_Num	-.7786086	.373912	-2.08	0.037	-1.393639	-.1635781
Vics_AnyHostage	.7159512	.5865402	1.22	0.222	-.2488216	1.680724
D_RaceB	1.572614	.7672008	2.05	0.040	.3106806	2.834547
_cons	-1.125554	.7699184	-1.46	0.144	-2.391957	.1408493

DP_Sentence - This is the dependent variable in our logistic regression. The variables listed below it are the independent variables.

coef. - These are the values for the logistic regression equation for predicting the dependent variable from the independent variable. They are in log-odds units.

These estimates tell you about the relationship between the independent variables and the dependent variable. Specifically, these estimates indicate the amount of increase in the predicted log odds of receiving a death sentence that would be predicted by a one unit increase in the predictor, holding all other predictors constant. Note: For the independent variables that are not significant, the coefficients are not significantly different from 0, which should be taken into account when interpreting the coefficients. (See the columns with the Z-values and P-values regarding testing whether the coefficients are statistically significant).

Because these coefficients are in log-odds units, they are often difficult to interpret, so they are often converted into odds ratios. Odds ratios reveal how changes in the independent variable impact the odds of the outcome of interest. Odds ratios are calculate as follows: a one unit

change in the independent variable leads to a multiplicative change in the odds of the natural log exponentiated to the value of the coefficient (e^Bx.)

For example:

> **D_RaceB** - The coefficient (or parameter estimate) for the variable **D_RaceB** is 1.572614 . This means that for a one-unit increase in **D_RaceB** (in other words, going from non-Black defendant to Black defendant), we expect a 1.572614 increase in the log-odds of the dependent variable **DP_Sentence**, holding all other independent variables constant. Converting the coefficient to an odds ratio [log base e ^1.572614 = 4.819227], Black defendants are 4.8 times more likely to receive a death sentence than a non-Black defendant.

Std. Err. - These are the standard errors associated with the coefficients. The standard error is used for testing whether the parameter is significantly different from 0. The z-value is calculated by dividing the parameter estimate by the standard error (see the column with Z-values and P-values). The standard errors can also be used to form a confidence interval for the parameter.

z and **P>|z|** - These columns provide the z-value and 2-tailed p-value used in testing the null hypothesis that the coefficient (parameter) is 0. If a 2-tailed test is used, then each p-value is compared to the preselected value of alpha. Coefficients with P-values less than alpha are statistically significant. For example, if you set alpha at 0.05, coefficients having a p-value of 0.05 or less would be statistically significant (i.e., you can reject the null hypothesis and say that the coefficient is significantly different from 0). If you use a one-tailed test (i.e., you predict that the parameter will go in a particular direction), then you can divide the p-value by 2 before comparing it to your preselected alpha level. Alternatively, you may use an alpha of .10 and only reject the null hypothesis if the coefficient is in the predicted direction.

For example: **D_RaceB** is equal to 0. The coefficient of 1.572614is significantly greater than 0. The coefficient for **D_RaceB** is 1.572614 and significantly different from 0 using alpha of 0.05 or.10 because its p-value is 0.040, which is smaller than 0.05 and .10.

[90% Conf. Interval] - This shows a 90% confidence interval for the coefficient. This presents how high and how low the actual population value of the parameter might be. The confidence intervals are related to the P-values such that the coefficient will not be statistically significant if the confidence interval includes zero.

Constant - This is the expected value of the log-odds of **DP_Sentence** when all of the predictor variables equal zero. In most cases, this is not interesting. Also, zero is often not a realistic value for a variable to take.

Table B1 below shows the correspondence between confidence level, Z-values and P-values.[97]

Table B1. Correspondence between Confidence Levels, Z- Values, P-Values		
Confidence Level	**Cut off point for rejecting the null hypothesis (Use z-value to assess)**	**Two-Tailed Alpha Value (Use p-value to assess)**
90 %	$z > 1.65$	$p < .10$
95 %	$z > 1.96$	$p < .05$
98 %	$z > 2.33$	$p < .02$
99 %	$z > 2.58$	$p < .01$
99.9 %	$z > 3.29$	$p < .001$

[97] Utts, Jessica M., and Robert F. Heckard, *Multipliers for Confidence Intervals and Rejection Region Critical Values*, MIND ON STATISTICS (Cengage Learning, 2014) at 745.

IV. APPENDIX C. ADDITIONAL STATISTICAL FINDINGS AND EVIDENCE

This Appendix provides additional tables and the unaltered statistical output associated with the regression models presented here and in the body of the report. Each subsection is numbered to correspond to the section of this document to which it corresponds.

PRESENTATION OF DESCRIPTIVE DATA, TABLE 2

Table 2 of our report compared the proportion of Black, White and Other death-eligible defendants against whom prosecutors filed a death notice who received a death sentence. This table was intended to provide readers with a broad overview of the racial composition of defendants in cases in which death notices were filed and death sentences were imposed and retained. Given this goal, we did not include the racial breakdown of outcomes in cases in which prosecutors filed death notices. Dr. Scurich critiques this omission, arguing that the relevant denominator is the number of cases in which a death notice was filed, not the total number of cases. We maintain that these are two different but valid measures (see discussion on p. 15 and footnote 36). However, we are happy to have provided the data in the manner he recommends in Table A in the body of the report. This table shows that 38.8 percent of non-Black, but 64.3 percent of Black death eligible defendants against whom prosecutors file death notices have been sentenced to death by juries in Washington State. We also present this data embedded in a modified version of the original table in Table C1 below.

Appendix Table C1. Capital Sentence Outcomes in Cases with Special Sentencing Proceedings, December 1981 – May 2014, by Race of Defendant				
	White Defendants	Black Defendants	Other Race Defendants	All Defendants
Death Notice Filed (n=298)	32.6% (62/190)	24.6% (14/57)	20% (10/50)	29.2% (87/298)
Death Penalty Imposed Among Cases with Death Notices Filed (n=82)	**40.4% (23/57)**	**64.3% (9/14)**	**30% (3/10)**	**42.7% (35/82)**
Death Penalty Imposed (n=298)	12.1% (23/190)	15.8% (9/57)	6% (3/50)	11.7% (35/298)
Death Penalty Retained (n=82)	14% (8/57)	28.6% (4/14)	10% (1/10)	15.9% (13/82)

Note: Defendant race is unknown in one case; the category "All" therefore includes one case more than the sum of Whites (190), Blacks (57) and Other Race (50). Of the 87 cases in which a death notice was filed by prosecutors, three were determined by judges to be ineligible for the death penalty and no special sentencing proceeding was held. In addition, two defendants filed stipulated plea agreements that precluded a death sentence. These cases are not included in the figures above.

As the figures in the bolded row of Table C1 show, juries imposed death sentences in 40.4 percent of the cases involving White defendants, and 30 percent of Other Race defendants, but 64.3 percent of the cases involving Black defendants, in which prosecutors filed a death notice and the defendant was in fact death-eligible.

Table C2 compares Black to non-Black defendants, and shows that although Black defendants are not over-represented amongst those against whom prosecutors file death notices, they are over-represented at all subsequent stages of the capital sentencing process compared to non-Black defendants.

Appendix Table C2. Capital Sentence Outcomes in Cases with Special Sentencing Proceedings, December 1981 – May 2014, by Race of Defendant (Non-Black vs. Black)

	Non-Black Defendants	Black Defendants	All Defendants
Death Notice Filed (n=298)	30% (72/240)	24.6% (14/57)	29.2% (87/298)
Death Penalty Imposed Among Death Eligible Cases with Death Notices Filed (n=82)	**38.8% (26/67)**	**64.3% (9/14)**	**42.7% (35/82)**
Death Penalty Imposed (n=298)	10.8% (26/240)	15.8% (9/57)	11.7% (35/298)
Death Penalty Retained (n=82)	13.4% (9/67)	28.6% (4/14)	15.9% (13/82)

Note: Defendant race is unknown in one case; the sum of 'non-Black' and 'Black' thus equal 297. Of the 87 cases in which a death notice was filed by prosecutors, three defendants were determined by judges to be ineligible for the death penalty and no special sentencing proceeding was held. In addition, two defendants filed stipulated plea agreements that precluded a death sentence. These cases are not included in the figures above.

PRESENTATION OF THE DESCRIPTIVE RESULTS, TABLE 3

Table 3 of our report provided information about the status of aggravated murder cases involving different racial defendant-victim configurations. In this table, we only included information about cases involving defendants convicted of killing one victim, as stated in the table note and in the paragraph preceding the table.

On p. 11 of his critique, Dr. Scurich contests the numbers we provided in Table 3. This appears to reflect the fact that he misinterpreted our table note, which states that "Figures include only black and white 'death eligible' defendants with one white or black victim" to mean defendants with *at least* one white or *at least* one black victim. Table C3 below presents the breakout of defendant race by victim race for trials in which only one victim was involved (n=190). These numbers were derived by selecting only cases in which there was one victim (using the variable 'Vics_1Total' which is coded as 1= single victim/0=more than one victim) and then using defendant race (using variable 'D_RaceOrdinal' coding defendant race as 1=white, 2= black, 3=other race) and victim race (using variable 'Vics_Races' coding victim race as 1=victims white, 2= all victims black, 3=all victims other race).

Table C3. Defendant Race by Victim Race in Aggravated Murder Cases involving a Single Victim				
	White Defendant	Black Defendant	Other Race Defendant	Total
White Victim	118	25	13	156
Black Victim	0	5	0	5
Other Race Victim	8	7	15	30
Total	126	37	28	191

Note: After correcting for data entry errors, there are 118 White defendants with a single White victim, rather than 117 indicated in our original report.

The numbers listed for Black and White defendants and victims in Table C3 serve as the denominators used to calculate proportions listed in Table 3 of our report.

Allegedly Missing Variables

Dr. Scurich claims that we did not provide him with binary variables for number of victims, and therefore that this variable had to be created (p. 16). However, these variables *are* in the data file and listed in the codebook provided to him. In addition to appearing in the datafile, these variables are also described on page 6, and in more detail, page 22, in the Codebook provided to him.[98] The variables are named "Vics_1Total", "Vics_2_4Total", and "Vics_5plusTotal" representing binary (dichotomous variables coded as 0 or 1) for each of these categories. Figure C1 below is a snapshot of how the binary variable 'Vics_1Total' appears in the Codebook.

[98] The variables are named 'Vics_1Total', 'Vics_2_4Total', and 'Vics_5plusTotal' representing binary (dichotomous variables coded as 0 or 1) for each of these categories. Appendix Figure C1. shows a snapshot of how the binary variable 'Vics_1Total' appears in the Codebook.

Figure C1. Copy of Binary Victim Variable as it Appears on page 22 of the Codebook provided to Dr. Scurich

Vics_NumOrdinal

Number of victims (ordinal measure)

Categories:

Code	Meaning	Frequency	Percentage
1	1 victim	192	64.6%
2	2 to 4 victims	98	33.0%
3	5 or more victims	7	2.4%
999	Missing	0	0.0%

Data Source(s): Trial report
Notes: Generated from 'Vics_Num'

Vics_1Total

Total number of victims (1)

Categories:

Code	Meaning	Frequency	Percentage
0	More than 1 victim	105	35.4%
1	One victim	192	64.6%
999	Missing	0	0.0%

Data Source(s): Trial report
Notes: Generated from 'Vics_Num', if = 1 then coded as 1

Reliability of the Regression Results

The regression results presented in our report consistently showed that juries were more than four times more likely to impose death sentences in cases involving Black defendants than in cases involving similarly situated non-Black defendants. As noted previously, Dr. Scurich correctly identified three data coding errors in our report. Regression analyses continue to indicate that juries are more than four times more likely to impose death sentences in cases involving Black defendants than similarly situated non-Black defendants and this effect is statistically significant after the errors are corrected (see Table C4 below). The unaltered output associated with this regression model appears directly beneath the table.

Table C4. Impact of Case Characteristics and Defendant Race on Capital Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014				
N= 77	Death Penalty Imposed			Pseudo R^2 = 0.2371 LR chi2(7) = 24.93 Prob > chi2 = 0.0008
Variable	Coefficient	Exact P-Value	Odds Ratio	90% Confidence Interval
Prior Convictions (ln)	-0.092	0.504	0.912	-.320, .135
1 Victim	-0.716	0.225	0.489	-1.69, .254
Applied Aggravators	0.632	0.015	1.882**	.204, 1.06
Mitigating Circumstances (ln)	-0.263	0.087	0.769*	-.516, -.010
Defenses	-0.779	0.037	0.459**	-1.39, -.164
Victim Held Hostage	0.716	0.222	2.046	-.249, 1.68
Black Defendant	1.573	0.040	4.819**	.311, 2.83

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

Note: In this model, five cases (6.1%) were missing data and were therefore dropped from the analysis.

```
Logistic regression                               Number of obs   =         77
                                                  LR chi2(7)      =      24.93
                                                  Prob > chi2     =     0.0008
Log likelihood =   -40.1168                       Pseudo R2       =     0.2371

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
     lnPriors |  -.0924963   .1383746    -0.67   0.504    -.3201023    .1351097
   Vics_1Total |  -.7162554   .5900092    -1.21   0.225    -1.686734    .2542234
AppliedAggCir_Num |   .6320834   .2602919     2.43   0.015     .2039413    1.060226
LnTotMitCircum |  -.2629554   .1537409    -1.71   0.087    -.5158366   -.0100741
  Defenses_Num |  -.7786086    .373912    -2.08   0.037    -1.393639   -.1635781
Vics_AnyHostage |   .7159512   .5865402     1.22   0.222    -.2488216    1.680724
      D_RaceB |   1.572614   .7672008     2.05   0.040     .3106806    2.834547
        _cons |  -1.125554   .7699184    -1.46   0.144    -2.391957    .1408493
```

When the model is run with the three data entry errors corrected, the number of applied aggravators continues to have a significant and positive effect on the likelihood that a defendant will be sentenced to death, while the number of defenses offered continues to significantly reduce the likelihood that a defendant will be sentenced to death. Most importantly, *Black defendants remain statistically significantly more likely to be sentenced to death than others (p=0.040). The results further indicate the effect of defendant race is large: the coefficient is 1.573 (meaning that Black defendants are 4.8 times more likely to receive a*

death sentence than a similarly situated non-Black defendants). The confidence intervals shown on the far right of the table do not include zero for these significant predictors and thus provide further confirmation of these findings.

Dr. Scurich's claim that the race of defendant is no longer significant when these errors are corrected is thus untrue. However, correcting the errors has some impact on the results of the analysis of prosecutorial decision-making (see Table C5 and associated unaltered output below).

Table C5. Impact of Case Characteristics and Social Factors on Prosecutorial Decisions to File Death Notices in Aggravated Murder Cases, December 1981 – May 2014

N= 266	Death Notice Filed			Pseudo R^2 = 0.2164 LR chi2(15)= 69.64 Prob > chi2= 0.0000
Variable	Coefficient	Exact P-value	Odds Ratio	90% Confidence Interval
Case Characteristics				
Prior convictions (ln)	0.169	0.015	1.184**	.055, .284
1 Victim	-0.148	0.701	0.863	-.780, .485
Alleged Aggravators	0.322	0.008	1.379***	.121, .523
Sex Crime	0.865	0.069	2.376*	.082, 1.65
Law Enforcement Officer	1.477	0.024	4.378**	.398, 2.56
Social Factors				
Black Defendant	-0.548	0.237	0.578	-1.31, .214
Extensive Publicity	1.301	0.002	3.672***	.600, 2.00
Victim Characteristics				
White Victim(s)	0.744	0.087	2.105*	.029, 1.46
Female Victim(s)	-0.017	0.965	0.983	-.661, .627
Stranger Victim(s)	-0.259	0.466	0.771	-.845, .327
Child Victim(s)	0.538	0.216	1.713	-.178, 1.25
County Characteristics				
Percent Republican	0.002	0.928	1.002	-.032, .034
Population Density	-0.002	0.041	0.998**	-.004, -.0003
Percent Black	0.376	0.000	1.457***	.233, .519
County Per Capita Revenue (ln)	-0.139	0.770	0.870	-.919, .641

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

Note: In this model, thirty-two cases (10.7%) were missing data and were therefore dropped from the analysis.

```
Logistic regression                                     Number of obs   =        266
                                                        LR chi2(15)     =      69.64
                                                        Prob > chi2     =     0.0000
Log likelihood = -126.11417                             Pseudo R2       =     0.2164

------------------------------------------------------------------------------
DP_DeathNoticeFiled |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------------+---------------------------------------------------------
           lnPriors |   .1691033   .0696267     2.43   0.015     .0545775    .2836291
        Vics_1Total |  -.1476923   .3845694    -0.38   0.701    -.7802527    .4848681
  AllegedAggCir_Num |    .322016   .1221042     2.64   0.008     .1211724    .5228596
          Sex_Crime |   .8654162      .4762     1.82   0.069     .0821368    1.648696
         Vic_Police |   1.476563   .6560137     2.25   0.024     .3975168     2.55561
            D_RaceB |  -.5480027   .4635442    -1.18   0.237    -1.310465    .2144596
   Publicity_Factor |   1.300753   .4257334     3.06   0.002     .6004839    2.001022
         Vics_RaceW |   .7441408   .4347314     1.71   0.087     .0290713     1.45921
        Vics_Female |  -.0172579   .3914866    -0.04   0.965    -.661196     .6266802
      Vics_Stranger |  -.2594575   .3562637    -0.73   0.466    -.8454591    .3265441
       Vics_Under18 |   .5383704   .4351466     1.24   0.216     -.177382    1.254123
         VoteRep_P  |   .0018567   .0206462     0.09   0.928    -.0321034    .0358167
         PopDensity |  -.0020222   .0009879    -2.05   0.041    -.0036472   -.0003972
     BlackCountyA_P |   .3762821   .0873708     4.31   0.000     .2325699    .5199942
  LnCountyRevA_1981 |  -.1389861   .4744823    -0.29   0.770    -.9194399    .6414678
              _cons |  -3.185994   3.018125    -1.06   0.291    -8.150367    1.778379
```

The results shown in Table 5 and its associated output show that many of the predictors identified as significant in our analysis remain significant. In particular, the (logged) number of prior convictions, the number of aggravators, the presence of sex crime allegations and law enforcement victims remain significant after controlling for a variety of social factors. These results also indicate that the race of the defendant, victim-gender and victim age also appear to be irrelevant at this stage of the criminal process, as the original results suggested. The results also continue to indicate that whether a case received extensive publicity significantly impacts prosecutors' decisions: prosecutors were 3.7 times more likely to seek death in cases characterized by extensive publicity than they were in cases that were not (according the judge) highly publicized. In addition, the results continue to show that the size of the Black population in the county in which the case was adjudicated significantly impacts the likelihood that prosecutors will file a death notice in aggravated murder cases generally. The latter two findings are significant at a p-value < 0.01.

After correcting for data errors, the regression results shown in Table C5 identify two additional significant predictors. First, prosecutors in counties with lower levels of population density were significantly more likely to seek death than other prosecutors. In addition, the updated results

indicate that prosecutors are twice as likely to seek death in cases involving exclusively White victims than in other cases (p=.087). However, model testing (or what Dr. Scurich calls sensitivity analysis) indicates that this finding is not consistent across model variants. For example, when "victim stranger" is omitted from the model above, "victim race" becomes non-significant (p-value=.199). Similarly, when "child victim" is omitted the model above, victim race becomes non-significant (p-value=.107).

RACE OF DEFENDANT EFFECTS ARE ROBUST

In Table C4 above, we show that the regression results continue to show that race of defendant is a significant predictor of sentencing outcomes in capital cases after three data entry errors are corrected. By contrast, Dr. Scurich reports that correcting for these errors nullifies the race of defendant effect. However, his results are unreliable, for several reasons. First, Dr. Scurich's statistical output plainly shows that in re-running the model after correcting for these errors, he included just 73 cases in his analysis (suggesting that he excluded the second trials for the three defendants who had them) (see Figure C2 below).

Figure C2. Snapshot of Dr. Scurich's Statistical Output from Appendix B4, p.78, Showing Incorrect Dependent Variable 'DP_Death' and 73 Cases Included

Classification Table[a,b]

			Predicted		
			DP_Death		Percentage
	Observed		0	1	Correct
Step 0	DP_Death	0	43	0	100.0
		1	30	0	.0
	Overall Percentage				58.9

a. Constant is included in the model.

b. The cut value is .500

It also appears that Dr. Scurich did not log the number of prior convictions or mitigating circumstances despite the fact that these variables showed clear signs of skew and we therefore logged these variables (as stated on pp. 18-19 of our report). This error is discussed in detail in the next section of this Appendix. The point we wish to emphasize here is that *even with these errors, Dr. Scurich still finds that Black defendants are 4.3 (4.288) times more likely to receive a death sentence than similarly situated non-Black defendants (p=0.053)* (see p. 27 and

Appendix B4 of his critique, and Figure C3 below), although he dismisses these findings as non-significant, presumably because .053 is greater than .050. Figure C3 below shows a copy of the results he presents.

Figure C3. Regression Results from Scurich Critique, p. 26-27

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	D_Priors	.031	.066	.228	1	.633	1.032	.907	1.174
	Victim1_vs_mult(1)	-.541	.563	.920	1	.337	.582	.193	1.757
	AppliedAggCir_Num	.496	.233	4.509	1	.034	1.642	1.039	2.594
	MitCircum_Total	-.024	.148	.026	1	.872	.976	.730	1.306
	Defenses_Num	-.718	.396	3.290	1	.070	.488	.224	1.060
	Vics_AnyHostage(1)	.598	.569	1.102	1	.294	1.818	.596	5.549
	D_RaceB(1)	1.456	.751	3.757	1	.053	4.288	.984	18.693
	Constant	-1.147	.816	1.975	1	.160	.318		

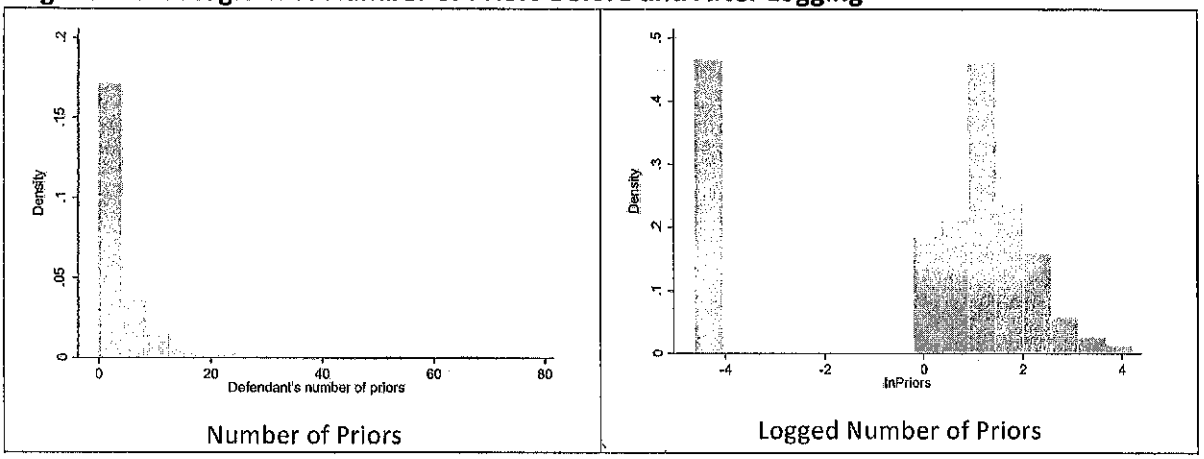
a. Variable(s) entered on step 1: D_Priors, Victim1_vs_mult, AppliedAggCir_Num, MitCircum_Total, Defenses_Num, Vics_AnyHostage, D_RaceB.

The dismissal of this finding that juries are 4.3 times more likely to impose a death sentence when defendants are Black, after controlling for a range of case characteristics, is surprising because the p-value for this finding is .053 and is thus very close to his preferred threshold, and quite far from the contested .10 threshold. His dismissal of this finding as non-significant is also questionable in light of the ASA's 2016 statement on p-values which argues against the treatment of p-values as rigid "bright line" rules. It is ironic that Dr. Scurich quoted this passage on p. 22 of his critique, but then proceeded to dismiss as non-significant his own finding that Black defendants were more 4.3 times more likely than others to be sentenced to death after controlling for case characteristics when this finding was associated with a p-value of .053.

RELIABILITY OF THE REGRESSION RESULTS, ERROR 1: DR. SCURICH'S FAILURE TO TRANSFORM VARIABLES

It is common practice to transform variables that exhibit extreme skew (meaning that there is a large concentration of cases at one end of the distribution with a "tail" at the other end) into forms that more closely resemble a normal distribution. Virtually all statistics textbooks discuss and advise on this practice at length, including transforming variable into its natural logarithm.[99] Figures C4, C5 and C6 show histograms of the three variables prior to and after their transformation, and show that logging these variables normalizes their distribution.

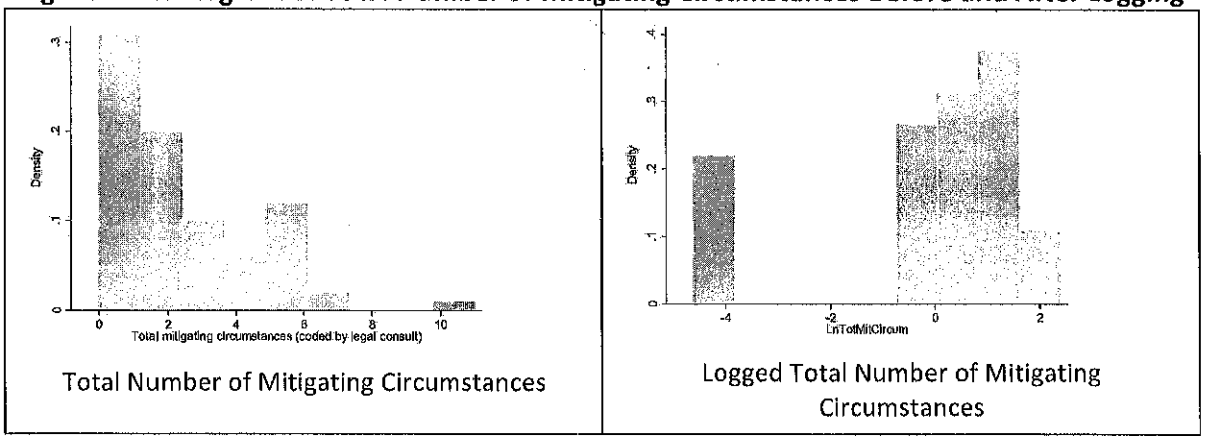
Figure C4. Histogram of Number of Priors Before and After Logging



Number of Priors

Logged Number of Priors

Figure C5. Histogram of Total Number of Mitigating Circumstances Before and After Logging

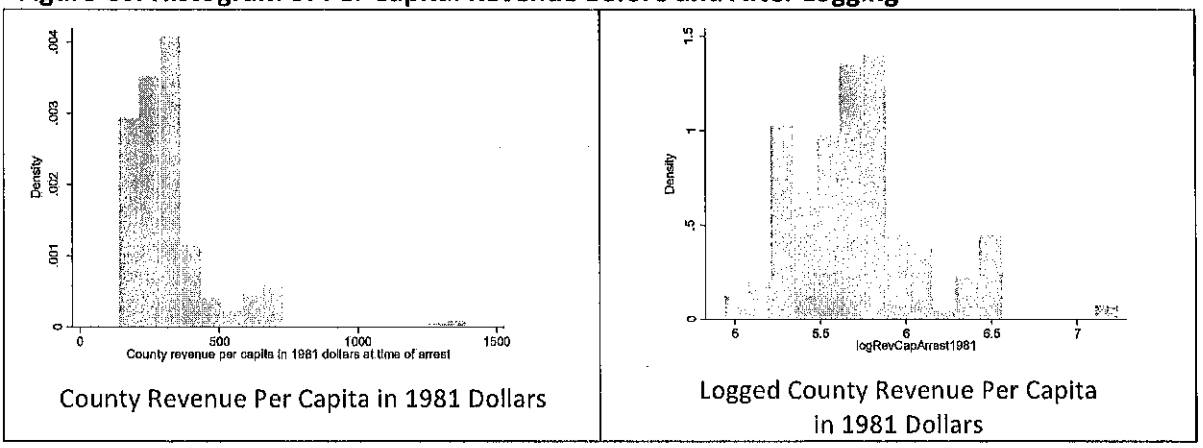


Total Number of Mitigating Circumstances

Logged Total Number of Mitigating Circumstances

[99] See Scott J. Long, and Jeremy Freese, REGRESSION MODELS FOR CATEGORICAL DEPENDENT VARIABLES USING STATA (College Station, Texas: StataCorp LP, 2006); see also Alan Agresti and Barbara Finlay, STATISTICAL METHODS FOR THE SOCIAL SCIENCES (Upper Saddle River. NJ: Prentice Hall, Inc., 1997).

Figure C6. Histogram of Per Capital Revenue Before and After Logging



County Revenue Per Capita in 1981 Dollars

Logged County Revenue Per Capita in 1981 Dollars

We can also show that the transformation of the variables in question was appropriate by comparing goodness-of-fit measures with and without this transformation. These measures are used to assess whether transforming variables improves the explanatory capacity of the regression models in question.[100] Appendix Figure C7 shows the raw output with and without transforming the number of priors to correct for skew. The results show that that our findings are not only replicable, but that transforming the variable produces a more robust model, as indicated by comparing the likelihood ratio chi-square test (LR chi2), Prob>Chi2, and Pseudo R^2 values across these models.[101]

[100] Agresti, A. and B. Finlay, 1997, STATISTICAL METHODS FOR THE SOCIAL SCIENCES (3rd Ed. Upper Saddle, NJ: Prentice Hall) at 596-598.

[101] For a guide on interpreting these values, please see Appendix B.

Figure C7. Output Showing Improved Model Fit with Transformation of Prior Convictions and Mitigating Circumstances

Untransformed

```
Logistic regression                                     Number of obs   =         77
                                                        LR chi2(7)      =      21.79
                                                        Prob > chi2     =     0.0028
Log likelihood = -41.689039                             Pseudo R2       =     0.2072

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
     D_Priors |   .0293971   .0649093     0.45   0.651    -.0773693    .1361634
   Vics_1Total |  -.6026255    .560573    -1.08   0.282    -1.524686     .319435
AppliedAggCir_Num |   .5244949    .237645     2.21   0.027     .1336036    .9153861
TotMitCircum1 |   .0031771   .1404767     0.02   0.982    -.2278865    .2342407
  Defenses_Num |  -.8002167   .3981887    -2.01   0.044    -1.455179   -.1452546
Vics_AnyHostage |   .5287165   .5639942     0.94   0.349    -.3989713    1.456404
     D_RaceB |   1.653655   .7298956     2.27   0.023     .4530839    2.854227
       _cons |  -1.109165   .8088698    -1.37   0.170    -2.439637    .2213077
------------------------------------------------------------------------------
```

Transformed

```
Logistic regression                                     Number of obs   =         77
                                                        LR chi2(7)      =      24.93
                                                        Prob > chi2     =     0.0008
Log likelihood =   -40.1168                             Pseudo R2       =     0.2371

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
     lnPriors |  -.0924963   .1383746    -0.67   0.504    -.3201023    .1351097
   Vics_1Total |  -.7162554   .5900092    -1.21   0.225    -1.686734    .2542234
AppliedAggCir_Num |   .6320834   .2602919     2.43   0.015     .2039413    1.060226
  LnTotMitCircum |  -.2629554   .1537409    -1.71   0.087    -.5158366   -.0100741
  Defenses_Num |  -.7786086    .373912    -2.08   0.037    -1.393639   -.1635781
Vics_AnyHostage |   .7159512   .5865402     1.22   0.222    -.2488216    1.680724
     D_RaceB |   1.572614   .7672008     2.05   0.040     .3106806    2.834547
       _cons |  -1.125554   .7699184    -1.46   0.144    -2.391957    .1408493
------------------------------------------------------------------------------
```

The histograms and goodness-of-fit measures shown above establish that transforming the three variables that showed signs of skew was appropriate. However, Dr. Scurich failed to do so in all but one of his "tests, and hence was unable to replicate our results.

We are certain that Dr. Scurich did not transform the variable as was appropriate because we can replicate his results when we intentionally neglect to do so. The figures below compare our findings when we do this to Dr. Scurich's results, indicating a robust replication of his model.

Figure C8. Model with Non-Transformed Number of Prior Convictions and Non—Transformed Number of Mitigating Circumstances

```
Logistic regression                                     Number of obs   =         78
                                                        LR chi2(7)      =      20.20
                                                        Prob > chi2     =     0.0051
Log likelihood = -43.036925                             Pseudo R2       =     0.1901

------------------------------------------------------------------------------
    DP_Death |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
-------------+----------------------------------------------------------------
    D_Priors |   .0975291   .0714506     1.36   0.172    -.0199966    .2150548
 Vics_1Total |  -.6051041   .5583681    -1.08   0.278    -1.523538    .3133296
 Plea_Guilty |  -.5115489   .7337205    -0.70   0.486    -1.718412    .6953139
AppliedAgg~m |   .3117864   .1888483     1.65   0.099     .0011587    .6224142
MitCircum_~l |  -.0049637   .1492374    -0.03   0.973    -.2504374    .2405099
Defenses_Num |  -.8826066   .4110985    -2.15   0.032    -1.558804   -.2064097
Vics_AnyHo~e |   .9848727   .5600696     1.76   0.079     .0636402    1.906105
       _cons |  -.6316335   .8010711    -0.79   0.430    -1.949278    .6860112
```

From Scurich evaluation, A7, p. 50

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	D_Priors	.098	.071	1.863	1	.172	1.102	.958	1.268
	Victim1_vs_mult(1)	-.605	.558	1.174	1	.278	.546	.183	1.631
	Plea_Guilty(1)	-.512	.734	.486	1	.486	.600	.142	2.526
	AppliedAggCir_Num	.312	.189	2.726	1	.099	1.366	.943	1.978
	MitCircum_Total	-.005	.149	.001	1	.973	.995	.743	1.333
	Defenses_Num	-.883	.411	4.609	1	.032	.414	.185	.926
	Vics_AnyHostage(1)	.985	.560	3.092	1	.079	2.677	.893	8.025
	Constant	-.632	.801	.622	1	.430	.532		

a. Variable(s) entered on step 1: D_Priors, Victim1_vs_mult, Plea_Guilty, AppliedAggCir_Num, MitCircum_Total, Defenses_Num, Vics_AnyHostage.

Because Dr. Scurich did not transform these variables as was appropriate in all but one of this "tests", he is unable to replicate the results we present of our report.

Dr. Scurich did run one model with logarithmic transformations but again concludes that effect of defendant race is non-significant.[102] The raw output Dr. Scurich presents indicates that he dropped 22 cases from his analysis when he included transformed (logged) variables for number of prior convictions and number of mitigating circumstances. We suspect that Dr. Scurich excluded 22 cases in which the defendant was listed as having no priors and/or no mitigating circumstances. The number of cases Dr. Scurich dropped (22) matches the number of cases in which defendants have zero prior convictions and/or zero mitigating circumstances.[103] It seems likely that these are the cases that were dropped because one cannot take the natural log of zero and any case with missing variable values is automatically dropped from the analysis. To avoid this, it is common practice to transform all values of the variable by adding a very small number (such as .001) to each value before applying the logarithmic transformation.[104]

This suspicion is bolstered by the fact that when we exclude those 22 cases, we obtain almost exactly the same results as Dr. Scurich presents in his Appendix A7ii, p. 60. For comparison, below is Dr. Scurich's raw output followed by our unaltered statistical output when omitting trials with defendants listed as having no priors and/or no mitigating circumstances.

[102] See Scurich critique, p. 20, "Redux: Same predictor variables but with a different functional form."

[103] Nine Trial Reports listed the defendant as having no prior convictions (7,13, 31, 34, 42, 60, 88, 197, 303) and 14 listed no mitigating circumstances (3, 9, 23, 29, 36, 62, 76, 160, 177, 180, 183, 197, 216, 281). Note that Trial Report 197 lists no prior convictions or mitigating circumstances.

[104] MedCal Statistical Software Manual. "Logarithmic Transformation." Available online at: https://www.medcalc.org/manual/log_transformation.php

Figure C9. Regression Results from Scurich Critique, p. 60, with Logged Variables and 22 Additional Dropped Cases

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a] Log_priors	.820	.454	3.269	1	.071	2.271	.933	5.523
Victim1_vs_mult(1)	-.295	.734	.162	1	.688	.745	.177	3.136
AppliedAggCir_Num	.509	.271	3.532	1	.060	1.663	.978	2.827
Log_mitigating_circu	.855	.642	1.774	1	.183	2.351	.668	8.268
m Defenses_Num	-1.288	.563	5.240	1	.022	.276	.092	.831
Vics_AnyHostage(1)	1.524	.734	4.310	1	.038	4.590	1.089	19.346
D_RaceB(1)	1.076	.947	1.291	1	.256	2.933	.458	18.771
Constant	-3.332	1.280	6.779	1	.009	.036		

a. Variable(s) entered on step 1: Log_priors, Victim1_vs_mult, AppliedAggCir_Num, Log_mitigating-circum, Defenses_Num, Vics_AnyHostage, D_RaceB.

```
Logistic regression                               Number of obs   =         55
                                                  LR chi2(7)      =      20.40
                                                  Prob > chi2     =     0.0048
Log likelihood = -25.251263                       Pseudo R2       =     0.2877

------------------------------------------------------------------------------
    DP_Death |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
-------------+----------------------------------------------------------------
ScurichlnP~s |   .8200432   .4535372     1.81   0.071     .0740408    1.566046
 Vics_1Total |  -.2948896   .7335879    -0.40   0.688    -1.501534    .9117552
AppliedAgg~m |   .5087257   .2706888     1.88   0.060     .0634823    .9539691
ScurichLnT~m |   .8546907   .6416822     1.33   0.183    -.2007825    1.910164
Defenses_Num |   -1.28801    .562665    -2.29   0.022    -2.213511   -.3625084
Vics_AnyHo~e |   1.523825   .7340243     2.08   0.038     .3164627    2.731188
     D_RaceB |   1.076195   .9470221     1.14   0.256    -.4815178    2.633908
       _cons |  -3.331588   1.279584    -2.60   0.009    -5.436316   -1.22686
```

RELIABILITY OF THE REGRESSION RESULTS, SCURICH ERROR II (IMPROPER MEASUREMENT OF VICTIM RACE)

Dr. Scurich further notes that our report highlighted the fact that numerous studies on capital punishment find that the race of the victim is statistically associated with receiving a death sentence. He subsequently claims that we nonetheless "did not include race of the victim" during model testing (Scurich at 24). Dr. Scurich is incorrect. We tested for this effect and included the results of this model in Appendix Table E4, entitled "Impact of Victim Characteristics on Capital Sentencing Outcomes in Eligible Aggravated Murder Cases" (see p. 46). In this table, we indicated that the log odds coefficient for victim race is -0.399 and not statistically significant (p=0.595.) This result shows that defendants in cases with exclusively White victims were not more likely to be sentenced to death than other defendants.

Dr. Scurich further claims that when race of victim is included in the model with race of defendant, the effect of defendant race is no longer significant. We show below that this is incorrect. The fact that Dr. Scurich does not obtain these results stems primarily from his improper measurement of victim race. Although claiming control for victim race, Dr. Scurich instead included measures that combined information about the race of the defendant and the race of the victim (despite also including the race of the defendant as a separate variable).[105] Specifically, he included variables for White Defendant with White Victim(s) (48 cases); Black Defendant with White Victim(s) (10 cases); Black Defendant with Black Victim(s) (two cases).[106]

Structuring victim race in this manner compares only cases involving Black or White defendants in which there were only Black or White victims. As a result, it reduces the data to only 60 cases, limiting the analysis to a truncated subset of total cases. Put differently, measuring race of victim in this manner means dropping 16 cases in the analysis that would otherwise be included in the model because they do not have missing values.[107] (Figure C10 below shows a copy of the statistical output from Dr. Scurich's analysis and confirms that this is the case).

[105] He states: "I re-ran the exact model reported in Table 7, except that I included a variable that took into account the race of the defendant *as well as* the race of the victim (DefRaceXVicRace)" (emphasis in the original) (Scurich at 24).

[106] See Scurich critique, Appendix B2, raw output "Categorical Variables Codings" at 66.

[107] See Scurich critique, Appendix B2, raw output "Case Processing Summary" at 66.

Figure C10. Copy of Dr. Scurich Output from his Appendix B2, p. 66

Categorical Variables Codings

		Frequency	Parameter coding (1)	Parameter coding (2)
DefRaceXVicRace	White def, white vic	48	.000	.000
	Black def, white vic	10	1.000	.000
	Black def, black vic	2	.000	1.000
Vics_AnyHostage	0	38	.000	
	1	22	1.000	
Victim1_vs_mult	Single victim	39	1.000	
	Mult victim	21	.000	

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	60	69.8
	Missing Cases	26	30.2
	Total	86	100.0
Unselected Cases		0	.0
Total		86	100.0

a. If weight is in effect, see classification table for the total number of cases.

In sum, Dr. Scurich committed a number of errors that prevented him from replicating our results. These errors include failing to transform (log) variables that showed pronounced signs of skew and measuring victim race in such a way that the sample was notably truncated. He also removed second trials from the analysis. Moreover, despite identifying three data entry errors, many of his models do not correct for them.

We are confident that Dr. Scurich committed these errors because the output he provides indicates that this is the case and because we are able to replicate his findings when we intentionally commit some or all of these errors. For example, we can replicate the results Dr.

Scurich presented on p. 54 of his critique by intentionally failing to log prior convictions and mitigating circumstances, and failing to correct for the three data entry errors he identifies. Figure C11 shows the unaltered output we obtain when we intentionally commit these errors.

Figure C11. Replication: Unaltered Statistical Output of Model Without Transformed Variables and Data Entry Errors Uncorrected

```
Logistic regression                                     Number of obs   =         77
                                                        LR chi2(7)      =      24.97
                                                        Prob > chi2     =     0.0008
Log likelihood = -40.096574                             Pseudo R2       =     0.2375

------------------------------------------------------------------------------
    DP_Death |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
-------------+----------------------------------------------------------------
    D_Priors |    .074693   .0719523     1.04   0.299    -.0436579     .193044
 Vics_1Total |   -.752464   .5823122    -1.29   0.196    -1.710282    .2053543
AppliedAgg~m |   .3991471   .2168493     1.84   0.066     .0424618    .7558324
MitCircum_~l |   .0423438   .1459735     0.29   0.772    -.1977612    .2824489
Defenses_Num |  -1.014258    .428416    -2.37   0.018     -1.71894   -.3095768
Vics_AnyHo~e |    .834929   .5780914     1.44   0.149    -.1159468    1.785805
     D_RaceB |    1.59594     .74712     2.14   0.033     .3670375    2.824843
       _cons |  -.9925126    .816717    -1.22   0.224    -2.335892    .3508673
------------------------------------------------------------------------------
```

For comparison, Figure C12 shows the output Dr. Scurich provided for this model on p. 54 of his critique.

Figure C12. Statistical Output Copied from Scurich Critique, Appendix A7, p. 54

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	D_Priors	.075	.072	1.078	1	.299	1.078	.936	1.241
	Victim1_vs_mult(1)	-.752	.582	1.670	1	.196	.471	.151	1.475
	AppliedAggCir_Num	.399	.217	3.388	1	.066	1.491	.974	2.280
	MitCircum_Total	.042	.146	.084	1	.772	1.043	.784	1.389
	Defenses_Num	-1.014	.428	5.605	1	.018	.363	.157	.840
	Vics_AnyHostage(1)	.835	.578	2.086	1	.149	2.305	.742	7.156
	D_RaceB(1)	1.596	.747	4.563	1	.033	4.933	1.141	21.333
	Constant	-.993	.817	1.477	1	.224	.371		

a. Variable(s) entered on step 1: D_Priors, Victim1_vs_mult, AppliedAggCir_Num, MitCircum_Total, Defenses_Num, Vics_AnyHostage, D_RaceB.

In short, Dr. Scurich committed a number of fundamental errors in his regression analyses that explain his inability to replicate our results. Below, we show that the regression results indicating that Black defendants are more than four times more likely than similarly situated others is robust (consistent) across a variety of model specifications when these errors are avoided.

Race of Defendant Effects are Robust

In the body of this document we show that the regression results continue to indicate that juries are significantly more likely to impose death sentences in cases involving Black defendants in each of the model variants Dr. Scurich advocates. Specifically, the regression results indicate that Black defendants are more than four times more likely than other similarly situated defendants to be sentenced to death when:

- Black defendants are compared to White defendants rather than to non-Black defendants (p=.045).

- Victim race (measured in a way that does not result in dropping large numbers of cases) is included in the model (p=.053);

- Victim and county characteristics are included in the models (with p-values ranging from .015 to .053).

In each case, the regression results indicate that the impact of race of defendant is a statistically significant one, and that the magnitude of the effect of the race of the defendant is large (i.e. Black defendants are consistently found to be more than four times more likely to be sentenced to death). In the body of this document, we provided the regression results for these models in formatted tables. Here, we provide the tables again as well as the unaltered statistical output associated with these models.

Comparing Black and White Defendants: Race of Defendant Effects are Still Significant

We begin by comparing Black defendants to White defendants. In order to compare Black defendants to White defendants (as well as Other Race defendants to White defendants), we included three dummy variables for defendant race (measured as Black, White, or Other Race, meaning neither Black nor White). Following conventional practice, we include two of these categories at a time, using the excluded category as a referent category. Including dummy variables (measured as binary constructs) is standard practice for analyzing the impact of non-numerical or non-hierarchical factors such as race, gender, religious status, etc.

We present the regression results below. As Table C6 and the associated output that follows it show, when Black Defendants are compared to White Defendants (specified as the referent category), the log odds for Blacks are 1.56 (meaning that Black Defendants are 4.7 times more likely that White Defendants to receive a death sentence, p=0.045). Other defendants do not statistically significantly differ from White Defendants (p=0.890) (see Table C6 below).

Table C6. Impact of Case Characteristics and Defendant Race on Capital Sentencing Outcomes in Death Eligible Cases, December 1981 - May 2014				
N= 77	Death Penalty Imposed			Pseudo R^2 = 0.2373 LR chi2(8) = 24.95 Prob > chi2 = 0.0016
Variable	Coefficient	Exact P-Value	Odds	90% Confidence Interval
Prior Convictions (ln)	-0.095	0.498	0.909	-.324, .135
1 Victim	-0.720	0.223	0.487	-1.69, .251
Applied Aggravators	0.629	0.016	1.876**	.200, 1.06
Mitigating Circumstances (ln)	-0.263	0.086	0.769*	-.515, -.011
Defenses	-0.786	0.037	0.456**	-1.41, -.165
Victim Held Hostage	0.704	0.235	2.022	-.271, 1.68
Black Defendant (vs. White Defendant)	1.557	0.045	4.743**	.282, 2.83
Other Race Defendant (vs. White Defendant)	-0.125	0.890	0.883	-1.60, 1.36

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

Note: In this model, five cases (6.1%) were missing data and were therefore dropped from the analysis.

```
Logistic regression                                 Number of obs   =         77
                                                    LR chi2(8)      =      24.95
                                                    Prob > chi2     =     0.0016
Log likelihood = -40.107114                         Pseudo R2       =     0.2373

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
     lnPriors |  -.0945602   .1394145    -0.68   0.498    -.3238766    .1347562
   Vics_1Total |  -.7202901   .5906283    -1.22   0.223    -1.691787    .2512071
AppliedAggCir_Num |   .6290655   .2608284     2.41   0.016     .200041     1.05809
LnTotMitCircum |  -.2632594   .1533225    -1.72   0.086    -.5154525   -.0110663
  Defenses_Num |  -.7858252     .37725    -2.08   0.037    -1.406346   -.1653041
Vics_AnyHostage |   .7039269   .5928398     1.19   0.235    -.2712079    1.679062
      D_RaceB |   1.556711   .7752002     2.01   0.045     .2816203    2.831802
   D_RaceNotBW |  -.1248015   .8996808    -0.14   0.890    -1.604645    1.355042
         _cons |  -1.089418   .8117075    -1.34   0.180    -2.424558    .2457221
------------------------------------------------------------------------------
```

Including Race of Victim: Race of Defendant Effects are Still Significant

Dr. Scurich notes that we highlighted that numerous studies on capital punishment find that race of the victim is statistically associated with receiving a death sentence. He subsequently claims that we nonetheless "did not include race of the victim" during model testing (Scurich p.

24). We indeed tested for this effect and included the results of this model in Appendix Table E4 (p. 46). In Table E4, we indicated that the log odds coefficient for Victim Race (measured as all Victim(s) were White/Not all Victims were White) is -0.399 and not statistically significant (p=0.595).

Table C7 shows the results that are obtained when both race of defendant and race of victim are included in the model. Specifically, they show that Black defendants remain significantly (4.5 times) more likely to receive a death sentence than non-Black defendants (p=0.053) when victim race is included in the model. The results also continue to indicate that the race of the victim is not a significant predictor of receiving a death sentence (p=0.469). The statistical output associated with this table is shown beneath Table C7.

Table C7. Impact of Case Characteristics, Defendant Race and Victim Race on Capital Sentencing Outcomes in Death Eligible Cases, December 1981 - May 2014

N= 77	Death Penalty Imposed			Pseudo R^2 = 0.2421 LR chi2(8) = 25.46 Prob > chi2 = 0.0013
Variable	Coefficient	Exact P-Value	Odds Ratio	90% Confidence Interval
Prior Convictions (ln)	-0.087	0.528	0.916	-.315, .140
1 Victim	-0.653	0.274	0.520	-1.63, .328
Applied Aggravators	0.646	0.013	1.908**	.216, 1.08
Mitigating Circumstances (ln)	-0.253	0.103	0.777	-.508, .002
Defenses	-0.737	0.050	0.478*	-1.36, -.118
Victim Held Hostage	0.746	0.206	2.108	-.224, 1.72
Black Defendant (vs. non-Black Defendant)	1.511	0.053	4.529*	.227, 2.79
White Victims (vs. non-White Victims)	-0.545	0.469	0.580	-1.78, .693

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

Note: In this model, five cases (6.1%) were missing data and were therefore dropped from the analysis.

```
Logistic regression                                     Number of obs   =         77
                                                        LR chi2(8)      =      25.46
                                                        Prob > chi2     =     0.0013
Log likelihood = -39.853974                             Pseudo R2       =     0.2421

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
     lnPriors |  -.0873444   .1385053    -0.63   0.528    -.3151653    .1404765
   Vics_1Total |  -.6531577   .5967241    -1.09   0.274    -1.634682    .3283661
AppliedAggCir_Num |   .6458379   .2611195     2.47   0.013     .2163344    1.075341
LnTotMitCircum |  -.2527564   .1549753    -1.63   0.103    -.5076681    .0021553
  Defenses_Num |  -.7372928    .376751    -1.96   0.050    -1.356993   -.1175925
Vics_AnyHostage |   .7455082   .5896922     1.26   0.206    -.2244491    1.715466
      D_RaceB |   1.510707   .7803852     1.94   0.053     .2270879    2.794327
    Vics_RaceW |  -.5445329   .7522932    -0.72   0.469    -1.781945    .6928793
         _cons |  -.7728772   .9093756    -0.85   0.395    -2.268667    .7229125
------------------------------------------------------------------------------
```

To summarize: the results presented above indicate that when the appropriate transformation (logging) of number of prior convictions and number of mitigating circumstances is undertaken and all relevant cases rather than a subset of cases are included, the results show that Black defendants are 4.8 times more likely than similarly situated non-Black defendants to be sentenced to death (p=.040). When Black defendants are compared to White defendants, the results indicate that Black defendants are 4.7 times more likely than White defendants to be sentenced to death after controlling for case characteristics (p=.045). When victim race is included in the model, the results indicate that Black defendants are 4.5 times more likely to receive a death sentence from a jury in Washington State compared to non-Black defendants (p=0.053). Thus, it is not true that the race of defendant effect is non-significant in these alternative models.

Including Victim and County Characteristics: The Race of Defendant Effects are Still Significant

Dr. Scurich argues throughout his critique that the race of defendant is not significant if the model is varied slightly. In Tables C8 and C9 below, we show the coefficients and associated p-values that are obtained under ten different model specifications. These models include case characteristics that have been shown in previous models to be significant, defendant race, and (separately) an assortment of victim and county characteristics. As we noted in our report, not all of these factors can be included simultaneously in the analysis of jury decision-making due to the size of the data set. For this reason, each of the victim and county characteristics is tested separately (but in combination with significant case characteristics and defendant race). The unaltered statistical output associated with all ten of these models is shown beneath the second of these tables.

Table C8. Impact of Significant Case Characteristics, Defendant Race and Victim Characteristics on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

	Death Penalty Imposed				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)
Applied Aggravators	1.88 *** (p=.007)	1.88 *** (p=.008)	1.94 *** (p=.006)	1.88 *** (p=.007)	1.93 *** (p=.005)
Mitigating Circumstances (ln)	0.85 (p=.228)	0.82 (p=.156)	0.84 (p=.204)	0.85 (p=.228)	0.88 (p=.365)
Defenses	0.47 ** (p=.029)	0.48 ** (p=.033)	0.46 ** (p=.028)	0.47 ** (p=.036)	0.44 ** (p=.027)
Black Defendant	**4.79 ** (p=.030)**	**4.28 ** (p=.049)**	**5.64 ** (p=.021)**	**4.79 ** (p=.030)**	**7.25 ** (p=.017)**
White Victim(s)		0.596 (p=.468)			
Female Victim(s)			0.49 (p=.194)		
Child Victims				1.07 (p=.919)	
Victim(s) Stanger					0.37 (p=.120)
Pseudo R^2	.2034	.2137	.2193	.2034	.2355
Prob > chi2	.0002	.0003	.0002	.0005	.0001
N	80	79	80	80	78

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

The results presented in Table C8 above show that the race of the defendant remains significant across all five of the models tested here. None of the victim characteristics tested in these models appear to be significant predictors of sentencing outcomes in capital cases in Washington State. Table C9 below shows the results that are obtained when a various county characteristics are included in the model.

Table C9. Impact of Significant Case Characteristics, Defendant Race and County Characteristics on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014					
	Death Penalty Imposed				
	Model 6	**Model 7**	**Model 8**	**Model 9**	**Model 10**
	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)	Odds Ratio (P-Value)
Applied Aggravators	1.88 *** (p=.007)	1.94 *** (p=.007)	1.85 ** (p=.010)	1.89 *** (p=.007)	1.91 *** (p=.007)
Mitigating Circumstances (ln)	0.85 (p=.228)	0.85 (p=.234)	0.82 (p=.151)	0.85 (p=.215)	0.86 (p=.273)
Defenses	0.47 ** (p=.029)	0.46 ** (p=.027)	0.47 ** (p=.045)	0.47 ** (p=.029)	0.46 ** (p=.030)
Black Defendant	**4.79 ** (p=.030)**	**4.37 * (p=.051)**	**4.46 ** (p=.049)**	**4.71 ** (p=.033)**	**4.85 ** (p=.027)**
Percent Black in County at Year of Sentencing		1.05 (p=.659)			
Percent County Voted Republican			0.94 * (p=.062)		
Densely Populated at Year of Sentence				1.000 (p=.739)	
Per Capita Revenue in 1981 Real Dollars (ln)					0.45 (p=.378)
Pseudo R^2	.2034	.2051	.2369	.2044	.2111
Prob > chi2	.0002	.0004	.0001	.0005	.0003
N	80	80	80	80	80

* significant at α = .10 ** significant at α = .05 *** significant at α = .01

The results presented in Table C9 above show that the race of the defendant remains significant across all five of the models tested here. Only one of the county characteristics tested in these models appears to be significant predictors of sentencing outcomes in capital cases in Washington State: the percent of the county population that voted republican in the most recent Presidential election. Notably, the inclusion of this significant predictor in the model does not meaningfully reduce the significance and magnitude of the effect of the race of defendants in the sentencing phase of capital cases.

The unaltered output associated with all nine of these models appears below.

Unaltered Statistical Output of Base Model (Model 1 and Model 6) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         80
                                                        LR chi2(4)      =      22.19
                                                        Prob > chi2     =     0.0002
Log likelihood = -43.455771                             Pseudo R2       =     0.2034

------------------------------------------------------------------------------
      DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
------------------+-----------------------------------------------------------
AppliedAggCir_Num |   .6299384   .2335378     2.70   0.007     .2458029   1.014074
   LnTotMitCircum |  -.1587689   .1318185    -1.20   0.228    -.3755911   .0580533
     Defenses_Num |  -.7553606   .3466791    -2.18   0.029    -1.325597   .1851243
          D_RaceB |   1.568243   .7225061     2.17   0.030     .3798259   2.756659
            _cons |  -1.394379   .5801751    -2.40   0.016    -2.348683   -.4400762
------------------------------------------------------------------------------
```

Unaltered Statistical Output of Victim Race (Model 2) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         79
                                                        LR chi2(5)      =      23.08
                                                        Prob > chi2     =     0.0003
Log likelihood = -42.451222                             Pseudo R2       =     0.2137

------------------------------------------------------------------------------
      DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
------------------+-----------------------------------------------------------
AppliedAggCir_Num |    .630071   .2361523     2.67   0.008      .241635   1.018507
   LnTotMitCircum |  -.1993449   .1403888    -1.42   0.156    -.4302639   .0315742
     Defenses_Num |  -.7413426   .3480265    -2.13   0.033    -1.313795    -.16889
          D_RaceB |   1.454054   .7389688     1.97   0.049     .2385588   2.66955
        Vics_RaceW |   -.518156   .7138814    -0.73   0.468    -1.692386   .6560744
            _cons |  -.9176471   .7799465    -1.18   0.239    -2.200545   .3652507
------------------------------------------------------------------------------
```

Unaltered Statistical Output of Victim Gender (Model 3) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         80
                                                        LR chi2(5)      =      23.92
                                                        Prob > chi2     =     0.0002
Log likelihood = -42.587783                             Pseudo R2       =     0.2193

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
AppliedAggC~m |   .6624238   .2430624     2.73   0.006     .2626218    1.062226
LnTotMitCircum |  -.1716404   .1351822    -1.27   0.204    -.3939953    .0507145
  Defenses_Num |   -.771767   .3504699    -2.20   0.028    -1.348239   -.1952953
     D_RaceB |   1.729136   .7516734     2.30   0.021     .4927431    2.965529
  Vics_Female |  -.7072254   .5445631    -1.30   0.194    -1.602952    .1885013
        _cons |  -1.113566   .6172349    -1.80   0.071    -2.128828   -.0983054
------------------------------------------------------------------------------
```

Unaltered Statistical Output of Victim Age (Model 4) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         80
                                                        LR chi2(5)      =      22.20
                                                        Prob > chi2     =     0.0005
Log likelihood = -43.450588                             Pseudo R2       =     0.2034

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
AppliedAggCir_Num |   .6298962    .233987     2.69   0.007     .2450219     1.01477
LnTotMitCircum |  -.1608307   .1334783    -1.20   0.228    -.3803829    .0587215
  Defenses_Num |  -.7466478   .3568654    -2.09   0.036    -1.333639   -.1596565
     D_RaceB |   1.567859   .7219218     2.17   0.030     .3804029    2.755314
  Vics_Under18 |    .065513   .6432819     0.10   0.919    -.9925916    1.123617
        _cons |  -1.415294   .6166519    -2.30   0.022    -2.429596   -.4009919
------------------------------------------------------------------------------
```

Unaltered Statistical Output of Victim Familiarity (Model 5) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         78
                                                        LR chi2(5)      =      25.03
                                                        Prob > chi2     =     0.0001
Log likelihood = -40.623466                             Pseudo R2       =     0.2355

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
AppliedAggCir~m |   .6572512   .2351573     2.79   0.005     .2704519    1.04405
LnTotMitCircum |  -.1289957   .1424101    -0.91   0.365    -.3632395    .105248
Defenses_Num |  -.8323051   .3761199    -2.21   0.027    -1.450967   -.2136428
D_RaceB |   1.980521   .8283821     2.39   0.017     .6179535    3.343088
Vics_Stranger |  -1.002073   .6453496    -1.55   0.120    -2.063578    .0594329
_cons |  -1.209997   .5986664    -2.02   0.043    -2.194716   -.2252787
```

Unaltered Statistical Output of Percent Black Population in County of Sentencing (Model 7) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         80
                                                        LR chi2(5)      =      22.38
                                                        Prob > chi2     =     0.0004
Log likelihood =   -43.3582                             Pseudo R2       =     0.2051

------------------------------------------------------------------------------
 DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
-------------+----------------------------------------------------------------
AppliedAgg~m |   .6635336   .2481253     2.67   0.007     .2554038    1.071663
LnTotMitCi~m |  -.1572933   .1321183    -1.19   0.234    -.3746085    .0600219
Defenses_Num |  -.7678493   .3474745    -2.21   0.027    -1.339394   -.1963047
D_RaceB |   1.475367   .7571547     1.95   0.051     .2299587    2.720776
BlackCou~S_P |   .0487694   .1106628     0.44   0.659    -.1332546    .2307935
_cons |  -1.621206   .7825298    -2.07   0.038    -2.908353   -.3340589
```

Unaltered Statistical Output of Percent County Population Voted Republican during Presidential Election Closest to Date of Sentencing (Model 8) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         80
                                                        LR chi2(5)      =      25.84
                                                        Prob > chi2     =     0.0001
Log likelihood = -41.626794                             Pseudo R2       =     0.2369

------------------------------------------------------------------------------
 DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
-------------+----------------------------------------------------------------
AppliedAgg~m |   .6129118   .2379321     2.58   0.010     .2215483    1.004275
LnTotMitCi~m |  -.1972284    .137291    -1.44   0.151     -.423052    .0285951
Defenses_Num |  -.7524226   .3749816    -2.01   0.045    -1.369212   -.1356327
     D_RaceB |   1.495418   .7596201     1.97   0.049     .2459538    2.744881
   VoteRep_P |   -.061538   .0329269    -1.87   0.062    -.1156979   -.0073781
       _cons |   1.356564   1.552438     0.87   0.382    -1.196969    3.910097
```

Unaltered Statistical Output of Population Density of County of Sentencing (Model 9) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         80
                                                        LR chi2(5)      =      22.30
                                                        Prob > chi2     =     0.0005
Log likelihood = -43.400448                             Pseudo R2       =     0.2044

------------------------------------------------------------------------------
      DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
------------------+-----------------------------------------------------------
AppliedAggCir_Num |   .6391484   .2371049     2.70   0.007     .2491456    1.029151
   LnTotMitCircum |  -.1640314   .1322448    -1.24   0.215    -.3815548     .053492
     Defenses_Num |  -.7646926   .3498273    -2.19   0.029    -1.340107    -.189278
          D_RaceB |   1.548946   .7278872     2.13   0.033     .3516778    2.746214
       PopDensity |   .0004085   .0012269     0.33   0.739    -.0016095    .0024265
            _cons |  -1.551505   .7537425    -2.06   0.040    -2.791302   -.3117093
```

Unaltered Statistical Output of Per Capita Revenue in County of Sentencing (Model 10) on Capital Case Sentencing Outcomes in Cases with Special Sentencing Proceedings, December 1981 - May 2014

```
Logistic regression                                     Number of obs   =         80
                                                        LR chi2(5)      =      23.03
                                                        Prob > chi2     =     0.0003
Log likelihood = -43.035707                             Pseudo R2       =     0.2111

------------------------------------------------------------------------------
  DP_Sentence |      Coef.   Std. Err.      z    P>|z|     [90% Conf. Interval]
--------------+---------------------------------------------------------------
AppliedAggCir_Num |   .6496982   .2409157     2.70   0.007     .2534271    1.045969
   LnTotMitCircum |  -.1458542   .1331555    -1.10   0.273    -.3648755    .0731671
     Defenses_Num |  -.7719828   .3563831    -2.17   0.030    -1.358181   -.1857848
          D_RaceB |   1.579392   .7120951     2.22   0.027     .4080999    2.750684
LnCountyRevA_1981 |  -.8076345   .9170021    -0.88   0.378    -2.315969    .7006998
            _cons |   3.100505   5.099174     0.61   0.543     -5.28689    11.4879
```

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EDUCATION

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M.A., Department of Sociology, University of California at Los Angeles, June 1989.

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ACADEMIC APPOINTMENTS

Professor, University of Washington, Law, Societies and Justice Program and Department of Sociology, September 2009 to the present.

- *Affiliate Faculty*, Comparative History of Ideas, 2014 to the present.
- *Affiliate Faculty*, West Coast Poverty Center, 2011 to the present.
- *Affiliate Faculty*, Clowes Center for the Study of Conflict and Dialogue, 2010 to the present.
- *Faculty Associate*, Center for Human Rights, 2009 to the present.

Associate Professor, University of Washington, Department of Sociology and Law, Societies & Justice Program, September 2001 - 2009.

Assistant Professor, University of Washington, Department of Sociology, 2000-2001.

Assistant Professor, Indiana University, Department of Criminal Justice, 1996 to 2000.

Visiting Assistant Professor, University of Michigan, Department of Sociology, 1995-6.

AWARDS AND HONORS

- *Washington State Academy of Sciences*, elected to membership 2016.
- *Woman of Courage Award*, University of Washington Women's Center, 2014.
- *Clarence and Elissa M. ("Lee") Schrag Endowed Faculty Fellow*, 2013-16
- *Outstanding Public Service Award*, University of Washington, 2013-14.
- *Sociological Research Association*, elected to membership 2011.
- *Finalist*, 2010 C. Wright Mills Book Award for *Banished: The New Social Control in Urban America* (co-authored with Steve Herbert).
- *Best Course Award*, 2007-8, University of Washington Pan-Hellenic Association, Sociology 372: Crime, Politics and Justice.
- *Associate Professor Research Fellowship*, Walter Chapin Simpson Center for the Humanities, University of Washington, 2007.
- *Justice Fund Fellowship*, Open Society Institute, 2006-7.
- *Outstanding Article Award*, Political Sociology Division of the American Sociological Association, 1999-2000, "How Unregulated is the U.S. Labor Market? The Dynamics of Jobs and Jails, 1980-1995" (with Bruce Western).
- *Outstanding Article Award*, Law and Society Association, 1999-2000, "How Unregulated is the U.S. Labor Market? The Dynamics of Jobs and Jails, 1980-1995" (with Bruce Western).
- *1998 Article Prize* of the Fritz Thyssen Foundation for Essays in the Social Sciences, "Der Mythos des Freien Marktes" (with Bruce Western).
- *Distinguished Teaching Award*, University of California at Los Angeles, 1993.
- *Dissertation Fellowship*, University of California at Los Angeles, 1993-4.

- *Sociology Department Fellowship*, University of California at Los Angeles, 1987-91.

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*Katherine Beckett, Kris Nyrop and Lori Pfingst. 2006. "Race, Drugs and Policing: Understanding Disparities in Drug Delivery Arrests." *Criminology* 44, 1: 105-138.

*Katherine Beckett, Kris Nyrop, Lori Pfingst and Melissa Bowen. 2005. "Drug Use, Drug Possession Arrests, and the Question of Race: Lessons from Seattle" *Social Problems* 52, 3: 419-41.

*Katherine Beckett. 2005. "Choosing Cesarean: Feminism and the Politics of Childbirth in the United States." *Feminist Theory* 6, 3: 251-275.

*Katherine Beckett and Bruce Hoffman. 2005. "Challenging Medicine: Law, Resistance, and the Cultural Politics of Childbirth." *Law and Society Review* 39, 5: 125-169.

Katherine Beckett and Theodore Sasson. 2004. "Crime, Politics and the Public: The Sources of Mass Incarceration in the U.S.A." *The Japanese Journal of Sociological Criminology* 29: 27-49.

*Katherine Beckett and Bruce Western. 2001. "Governing Social Marginality: Welfare, Incarceration, and the Transformation of State Policy." *Punishment and Society* 3, 1: 43-59.

- Reprinted in *Mass Imprisonment: Its Causes and Consequences*, edited by David Garland (pp. 35-51). Sage Publications, 2001.

*Bruce Western and Katherine Beckett. 1999. "How Unregulated is the U.S. Labor Market? Penal System as Labor Market Institution, 1980-1995." *American Journal of Sociology* 104, 3: 1030-60.

- Winner of the Distinguished Scholarly Article Prize, Political Sociology Section of the ASA (2000).
- Winner of the Law and Society Association's Best Article Prize (2000).

Bruce Western and Katherine Beckett. 1998. "Der Mythos des Freien Marktes" ("The Myth of the Free Market.") *Berliner Journal Fur Soziologie* 8, 2: 159-180.

Bruce Western, Katherine Beckett and David Harding. 1998. "Systeme Penal et Marche du Travail aux Etats-Unis" ("The Penal System and Labor Market in the United States.") *Actes de la Recherche en Sciences Sociales* 124: 27-36. Special edition: De L'Etat Social a L'Etat Penal [From the Social to the Penal State], edited by Pierre Bourdieu and Loic Wacquant.

- Published in German as "Strafrechtssystem und Arbeitsmark in den Vereinigten

Staaten." Pp. 159-180 in Pierre Bourdieu (ed.), Der Lohn der Angst: Flexibilität und Kriminalität in der 'Neuen Arbeitsgesellschaft (The Wages of Fear: Flexibility and Criminality in the 'New Work Society'). Universitätsverlag Konstanz, 2001.

- Translated to Portugese in the Brazilian Journal of the Instituto Carioca de Criminologia, Discursos Sediciosos: Crime, Direito e Sociedade, 11, Spring 2002.

Katherine Beckett. 1997. "Managing Motherhood: The Civil Regulation of Prenatal Drug Users." *Studies in Law, Politics and Society* 16: 299-325.

*Katherine Beckett. 1996. "Culture and the Politics of Signification: The Case of Child Sexual Abuse." *Social Problems* 43, 1: 57-76.

- Reprinted in *The Study of Social Problems: Seven Perspectives*, edited by Earl Rubington and Martin Weinberg. Oxford University Press, 2002.

*Katherine Beckett. 1995. "Media Depictions of Drug Abuse: The Impact of Official Sources." *Journal of Research in Political Sociology*, Volume 7: 161-182.

*Katherine Beckett. 1995. "Fetal Rights and Crack Moms: Pregnant Women in the War on Drugs." *Contemporary Drug Problems* 22, 4: 587-612.

*Katherine Beckett. 1994. "Setting the Public Agenda: 'Street Crime' and Drug Use in American Politics." *Social Problems* 41, 3: 425-447.

- Reprinted in *Drugs, Alcohol, and Social Problems*, edited by James D. Orcutt and David R. Rudy. Rowman and Littlefield, 2003 and *Essays on Criminal Justice*, edited by Marilyn McShane and Frank P. Williams (Garland Publishing Co., 1997.)

BOOK CHAPTERS

Katherine Beckett and Steve Herbert. 2015. "Managing the Neoliberal City: 'Quality of Life Policing' in the 21st Century." Pp. 349-356 in *The Routledge Handbook on Poverty in the United States*, edited by Stephan Nathan Haymes, Maria Vidal de Haymes and Reuben Jonathan Miller (New York: Routledge).

Katherine Beckett. 2008. "Drugs, Data, Race and Reaction: A Field Report." In *Being and Becoming a Public Scholar: A Road Map and a Manifesto*, edited by Katharyne Mitchell. New York: Blackwell Publishers.

- Also published in *Antipode* 40, 3: 442-47 (2008).

Katherine Beckett and Steve Herbert. 2008. "The Punitive City Revisited: The Transformation of Urban Social Control." Pp. 106-122 in *After the War on Crime: Race, Democracy, and a New Reconstruction*, edited by Mary Louise Frampton, Ian Haney Lopez, and Jonathan Simon. New York: New York University Press.

Katherine Beckett. 2003. "Setting the Public Agenda: 'Street Crime' and Drug Use on American Politics." In *Drugs, Alcohol, and Social Problems*, edited by James D. Orcutt and David R. Rudy (Rowman and Littlefield).

- Also published in *Essays on Criminal Justice*, ed. by Marilyn McShane and Frank P. Williams. Garland Publishing Co., 1997.

Katherine Beckett. 2002. "Culture and the Politics of Signification: The Case of Child Sexual Abuse." In *The Study of Social Problems: Seven Perspectives*, edited by Earl Rubington and Martin Weinberg. Oxford University Press.

Katherine Beckett and Bruce Western. 2001. "Governing Social Marginality: Welfare, Incarceration, and the Transformation of State Policy." In *Mass Imprisonment: Its Causes and Consequences*, edited by David Garland. Sage Publications.

Katherine Beckett and Bruce Western. 2001. "Crime Control, American Style: From Social Welfare to Social Control." In *Criminal Policy in Transition: Criminal Policy Trends into the New Millennium*, edited by Penny Green and Andrew Rutherford. London: Hart Publishing.

- Also published in *Crime, Inequality and the State: Criminal Justice in Late Modernity*, edited by Mary Vogel (Chapter 9). New York: Routledge, 2007.

Katherine Beckett and Bruce Western. 2001. "The Penal System as Labor Market Institution: Jobs and Jails, 1980-95." In *Penal Reform in Overcrowded Times*, edited by Michael Tonry. New York: Oxford University Press.

Katherine Beckett and Theodore Sasson. 2000. "The War on Crime as Hegemonic Strategy: A Neo-Marxian Theory of the New Punitiveness in U.S. Criminal Justice Policy." Pp. 61-84 in *Of Crime and Criminality: The Use of Theory in Everyday Life*, edited by Sally Simpson. Beverly Hills, CA: Sage Publications.

Katherine Beckett and Theodore Sasson. 1998. "The Media and the Construction of the Drug Crisis in America." Pp. 25-44 in *The New War on Drugs: Symbolic Politics and Criminal Justice Policy*, edited by Eric Jensen and Jurg Gerber. Cincinnati, OH: Anderson Publishers.

Ivan Szelenyi, Katherine Beckett and Lawrence P. King. 1994. "Socialism and Alternative Economic Systems." In *A Handbook of Economic Sociology*, edited by Neil Smelser and Richard Swedberg. Princeton University Press.

BOOK REVIEWS AND REVIEW ESSAYS

Katherine Beckett. Review Essay, "Democracy and its Discontents." *Contemporary Sociology: A Journal of Reviews* 37, 2 (March 2008): 115-188. Review of *The Disenfranchisement of Ex-Felons*, by Elizabeth A. Hull and *Locked Out: Felon Disenfranchisement and American Democracy*, by Jeff Manza and Christopher Uggen.

Katherine Beckett. 2005. Book Review, *Speaking of Crime: The Language of Criminal Justice* by Lawrence M. Solan and Peter M. Tiersma (University of Chicago Press). *Law and Society Review* 40, 3: 748-50.

Katherine Beckett. 2005. Book Review, *Arresting Images: Crime and Policing in Front of the Television Camera,* by Aaron Doyle (University of Toronto Press). *Contemporary Sociology* 34, 2: 166-8.

Katherine Beckett. 2001. Review Essay, "Crime and Control in the Culture of Late Modernity." Review of *Culture of Control*, by David Garland and *Crime and Social Change in Middle England: Questions of Order in an English Town*, by Evi Girling, Ian Loader, and Richard Sparks. *Law and Society Review* 35, 4: 899-930.

Katherine Beckett. 2001. Book Review, *Power, Politics, and Crime*, by William J. Chambliss. *Contemporary Sociology* 30, 4: 398-400.

Katherine Beckett. 1995. Book Review: *Troubling Children: Studies of Children and Social Problems*, edited by Joel Best. *Contemporary Sociology* 24, 4: 375-6.

REPORTS

Katherine Beckett. 2014. *Seattle's Law Enforcement Assisted Diversion Program: Lessons Learned from the First Two Years*. Process evaluation funded by the Ford Foundation.

Katherine Beckett and Heather Evans. 2014. *The Role of Race in Washington State Capitol Sentencing, 1981-2014*. Available online at https://lsj.washington.edu/publications/katherine-beckett-and-heather-evans-2014-role-race-washington-state-capital-sentencing

Katherine Beckett and Heather Evans. 2013. *Immigration Detainer Requests in King County, Washington: Costs and Consequences*. Report commissioned by the Northwest Defender's Association. Available online at https://lsj.washington.edu/publications/beckett-evans-2013-immigration-detainer-requests-king-county-wa

Katherine Beckett and Steve Herbert. 2008. *The Consequences and Costs of Marijuana Prohibition*. Report commissioned by the ACLU of Washington. Available online at https://aclu-wa.org/library_files/MarijuanaProhibition.pdf

Katherine Beckett, Alexes Harris and Heather Evans. 2008. *The Assessment and Consequences of Legal Financial Obligations in Washington State*. Report commissioned by the Washington State Minority & Justice Commission. Available online at http://seattletimes.nwsource.com/ABPub/2009/02/24/2008780289.pdf

Katherine Beckett. 2008. *Race and Drug Law Enforcement in Seattle*. Report commissioned by the Racial Disparity Project and the ACLU Drug Law Reform Project. Available online: https://lsj.washington.edu/publications/katherine-beckett-2008-race-and-drug-law-enforcement-seattle

Katherine Beckett. 2004. *Race and the Enforcement of Drug Laws in Seattle*. Report commissioned by the Racial Disparity Project. Available online: http://old.defender.org/files/Race%20and%20Drug%20Law%20Enforcement%20in%20Seattle%20%282004%29.pdf

OTHER PUBLICATIONS

Katherine Beckett. 2015. "Toward Harm Reduction Policing." *Contexts* 14, 3 (Summer).

Katherine Beckett. 2008. "Drugs, Data, Race and Reaction: A Field Report." *Antipode* 40: 442-7.

Katherine Beckett. 2000. "The War on Drugs." In *The Encyclopedia of Criminology and Deviant Behavior*, edited by Clifton D. Bryant. Taylor and Francis.

Katherine Beckett and Bruce Western. 1997. "The Penal System as Labor Market Institution: The Dynamics of Jobs and Jails, 1980-1995." *Overcrowded Times* 8, 6:1, 9-13.

Katherine Beckett. 1997. "Political Preoccupation with Crime Leads, Not Follows, Public Opinion." In *Penal Reform in Overcrowded Times* 8, 5: 1, 8-11.

GRANTS AND CONTRACTS

National Science Foundation, Law and Social Sciences Program. 2015-8. "The End of Mass Incarceration? Exploring the Contradictions of Criminal Justice Reform." Principal Investigator. $229,940.

Ford Foundation. 2013-14. Seattle's Law Enforcement Assisted Diversion Program: A Process Evaluation. Principal Investigator. $53,464.

Paul G. Allen Family Foundation. 2011-14. "The Clean Slate Project." Principal Investigator. $199,983.

Royalty Research Fellowship. 2012-2013. "The Shadow Carceral State: The Hidden Politics of Penal Expansion." Co-PI (with Naomi Murakawa as Principal Investigator). $22,175.

ACLU Drug Law Reform Project/ Defender Association. 2007-8. "Race and Drug Law Enforcement in Seattle: An Update." Principal Investigator. $25,000.

Washington State Minority and Justice Commission, 2006-8. "The Assessment and Impact of Legal Financial Obligations." Co-PI (with Alexes Harris). $19,961.

Institute for Transnational Studies, University of Washington, 2006. "Whose Quality of Life?: Citizenship, Space and the Public in Contemporary Policing." Co-PI (with Angelina Godoy). $1,500.

Institute for Ethnic Studies in the United States, University of Washington, 2006-7. "Assessing the Consequences of Intensified Urban Social Control for Seattle's Racial and Ethnic Minorities." Principal Investigator. $1,000.

Royalty Research Fund and Scholar Program, University of Washington, 2001-2. "Regulating Midwifery: Law, Medicine, and the Cultural Meaning(s) of Childbirth." Principal Investigator. $21,321.

Grant-in-Aid of Research, Indiana University, 1999. "Regulating Midwifery: Law, Medicine, and the Cultural Meaning of Childbirth." Principal Investigator. $1,200.

Presidents' Council on International Programs Grant, Indiana University, 1997. For preliminary research in South Africa (declined).

SELECTED PRESENTATIONS

"The Uses and Abuses of Police Discretion: Toward Harm Reduction Policing." Invited presentation at Harvard Law School, February 11, 2016.

"The End of Mass Incarceration? Recent Trends in Criminal Justice Processing." Presented at the annual meetings of the *Law and Society Association*, Seattle, Washington, May 29, 2015.

"The End of Mass Incarceration?" Invited presentation to the University of Washington Board of Regents, May 14, 2015.

"Not Welcome Here: How Cities Criminalize Homelessness." Invited presentation as part of the University of Washington's Next Course Dinner Series, April 29, 2015.

"Legal Financial Obligations: An Overview." Invited presentation at the Up from Debt National Convention sponsored by the Washington Community Action Network, March 14, 2015.

"The End of an Era? The Contradictions of Criminal Justice Reform." Invited presentation at UC Irvine's workshop on "Realigning Corrections," October 18-19, 2014.

"Unequal under the Law: The Impact of Federal Immigration Enforcement on Local Criminal Justice Processes and Outcomes." Invited presentation at the Center for Law, Society & Culture, Indiana University, April 10, 2014.

"The Impact of Prior Drug Convictions on Sentencing Outcomes: Evidence from King County." Invited presentation at the joint meetings of the Washington State Sentencing Commission and the Washington State Minority & Justice Commission, Seattle, Washington, September 28, 2013.

"California's Prison Realignment in Context: The Contradictions of Criminal Justice Reform across the United States." Invited presentation at the West Coast Law & Society Retreat, Seattle, Washington, September 21, 2013.

"Drug Law Reform as Criminal Justice Reform?" Paper presented at the annual meetings of the *Law and Society Association,* Boston, MA, May 31, 2013.

"Mapping the Carceral State." Invited presentation in UC Irvine's Criminology, Law and Society Department. May 20, 2013.

"Mass Incarceration and the Re-Entry Problem." Invited presentation to Seattle Low Income Housing Providers, March 14, 2013.

"Banished." Ann Lucas Lecture: Symposium on *Banished*, San Jose State University, May 10, 2012.

"Drug Policy Reform and Racial Disparities in Criminal Justice." Invited panel presentation, University of Washington School of Law, May 3, 2012.

"Mapping the Shadow Carceral State." Hoffinger Lecture, New York University School of Law, April 23, 2012.

"Racial Disproportionality in the Washington State Criminal Justice System." Invited presentation at the Washington State Judicial Conference, Vancouver, Washington, October 2, 2011.

"Racial Disparities in the Washington State Criminal Justice System." Invited presentation to Columbia Legal Services staff, June 15, 2011.

"Racial Disparities in the Washington State Criminal Justice System." Invited presentation to the Washington State Supreme Court on behalf of the Task Force on Race and the Criminal Justice System, March 2, 2011.

"Racial Disparities in the Washington State Criminal Justice System." Invited presentation, University of Washington Law School, February 24, 2011.

"Banishment: Its Return and Consequences." Invited talk at the Simpson Center, University of Washington, January 16, 2011.

"The Uses and Consequences of Banishment." Invited presentation, Fairview College, Western Washington University, May 26, 2009.

"Banishment: Its Return and Consequences." Invited presentation, University of Toronto, Criminology Centre, November 12, 2008.

"Banishment as Punishment." Paper presented at the annual meetings of the *Law and Society Association*, Montreal, Canada, May 28-31, 2008.

"Banishment: Its Return and Consequences." Invited presentation, University of California at Berkeley, Center for the Study of Society and Law, Jurisprudence and Social Policy Program, November 26, 2007.

"Securing the Global City: Crime, Consulting, Risk and Ratings in the Production of Urban Space." Invited presentation at the Indiana University School of Law conference on *Democracy and the Transnational Private Sector*. Bloomington, Indiana, April 12-13, 2007 (with Katharyne Mitchell).

"Race, Punishment and Inequality: Broadening Our Agenda." Invited presentation at the Stanford Law School conference on *Race, Inequality and Incarceration*. Palo Alto, California, April 11, 2007.

"Racial Disparities in Drug Law Enforcement: Lessons from Seattle." Invited presentation, Social Development Research Group, Seattle, Washington, February 1, 2007.

"The Return of Banishment?" Spatial Exclusion and Urban Social Control." Invited presentation, ASA Thematic Panel, *Boundaries in Crime and Punishment*. Annual meetings of the *American Sociological Association*, Montreal, Canada, August 10-14, 2006.

"Understanding the Expansion of the U.S. Penal System." Invited lecture at the University of Bologna, Italy, Faculty of Law, March 14, 2006.

"Developments in Urban Social Control in the United States: The Case of Seattle." Invited presentation, Emilia-Romagna's "Safe Cities Project", March 16, 2006.

"The Transformation of Urban Social Control." Paper presented at the annual meetings of the *American Society of Criminology*, Toronto, Canada, November 15-19, 2005.

"The Punitive City Revisited: The Transformation of Urban Social Control." Paper presented at the annual meetings of the *Law & Society Association*, Las Vegas, Nevada, June 1-5, 2005.

"Policing the City: Urban Politics and the War on Crime." Invited presentation at the CUNY Graduate Center, New York, November 21, 2004.

"Policing the City: Urban Politics and the War on Crime." Invited presentation, "After the War on Crime: Race, Democracy, and a New Reconstruction" conference, Boalt Hall, *Center for Social Justice*, University of California at Berkeley, October 21-3, 2004.

"Race, Drug Abuse, and Drug Arrests: Lessons from Seattle." Presented at the annual meetings of the *American Sociological Association*, Hilton Hotel, San Francisco, Aug. 13-17, 2004.

"Policing Drugs: Implications for Civil and Human Rights." Invited paper presented at the "Human Rights from the Bottom Up" conference, University of Washington, April 3, 2004.

"Race and the Enforcement of Drug Laws in Seattle." Invited presentation to the U.S. Civil Rights Commission, Monaco Hotel, Seattle, Washington, February 20, 2004.

"Reconstructing Childbirth: Law and the Cultural Politics of Midwifery." Presented at the meetings of the *Law and Society Association*, Vancouver, B.C., May 31, 2002.

"Governing Social Marginality: Welfare, Incarceration, and the Transformation of State Policy." Invited paper presented at "A Conference on the Causes and Consequences of Mass Imprisonment in the USA", *New York University Law School*, February 26, 2000.

"Toward an Institutional Theory of Incarceration: Social Control, Welfare, and the Transformation of State Policy." Presentation at the meetings of the *American Society of Criminology*, Toronto, Canada, November 17, 1999.

"Social Control, Welfare and the Transformation of the State." Invited presentation at a conference entitled "Criminal Justice in Transition", sponsored by the *International Association of the Sociology of Law*. May 15, 1998, Onati, Spain.

"How Unregulated is the U.S. Labor Market? The Dynamics of Jobs and Jails, 1980-1995". Refereed presentation at the meetings of the *American Sociological Association*, Toronto, Canada, August 11, 1997.

"Cracking the Edifice: News Coverage of the Cocaine Sentencing Dispute." Refereed presentation at the meetings of the *American Society for Criminology*, Chicago, Illinois, November 21, 1996.

"Regulating Motherhood in the Family Courts: Pregnant Drug Users in the Family Courts." Presentation at the meetings of the *Law and Society Association*, Phoenix, Arizona, June 16, 1994.

SIGNIFICANT OFFICES AND SERVICE ACTIVITIES

UNIVERSITY OF WASHINGTON

- Director of the Comparative Law and Society Studies (CLASS) Center, 2015 to the present.
- Executive Committee Member, West Coast Poverty Center, 2015 to the present.
- Associate Chair, Department of Sociology, Fall 2014 to the present.
- Co-Organizer, Criminal Justice Roundtable, West Coast Poverty Center, 2014 to the present.
- Search Committee Chair, Law, Societies & Justice Program, 2014.
- Standing Committee, Department of Gender, Women and Sexuality Studies, 2014-17.
- Faculty Representative to the Senate Committee on Planning and Budget, 2013-14.
- Public Service Award Selection Committee, 2013-14.
- Undergraduate Program Coordinator, Department of Sociology, 2012-13.
- Steering Committee Member, Center for Human Rights, 2012 to the present.
- Special Investigatory Committee, University of Washington, 2012-3.
- Advisory Review Committee of the Dean of the School of Social Work, 2011-12.
- Chair, Colloquium Committee, Department of Sociology, University of Washington, 2010-2011.
- Graduate Program Coordinator, Department of Sociology, University of Washington, September 2008 - June 2010.

- Graduate Program Director, Law, Societies & Justice Program, University of Washington, 2004-2008.
- Executive Committee, Department of Sociology, University of Washington, 2002-4 and 2008-10.
- Representative to the Faculty Senate, Department of Sociology, University of Washington, 2002-4.

OTHER PROFESSIONAL

- Planning Committee, Punishment and Social Control Collaborative Research Network (CRN), *Law and Society Association*, 2014 to the present.
- Co-Director, Scholars Strategy Network Northwest, 2014 to the present.
- Member, Scholars Strategy Network, 2012 to the present.
- Editorial Board, *Law and Social Inquiry*, 2012-2014.
- Chair, Article Prize Committee, Law and Society Association, 2011-2012.
- Organizer, Special Thematic Panel on Crime and Punishment, American Sociological Association, 2012 meetings.
- Advisory Board, *Journal of Social Problems*, 2011 to the present.
- Program Committee, American Society of Criminology, 2010.
- Council Member, Sociology of Law Section, ASA, 2009-10 (elected position).
- Board of Trustees, Law and Society Association, 2006-9 (elected position).
- Chair, Nominations Committee, ASA Section on Crime, Law and Deviance, 2006-7.
- Program Co-Chair, Annual Meetings of the Law and Society Association, 2006.
- Distinguished Article Prize Award Committee member, Sociology of Law Section of the American Sociological Association, 2005.
- Steering Committee Member, American Society of Criminology, 2003-2005.
- Editorial Board member, Punishment and Society, March 2003 to the present.
- Council member, Crime, Law and Deviance Section, American Sociological Association, 2003-2005.
- Chair, Article Prize Committee, Law and Society Association, 2002.
- Book Review Editor, *Punishment and Society*, 1999-2002.
- Undergraduate Program Director, Department of Criminal Justice, Indiana University, 1998-2000.
- Grant Reviewer, National Science Foundation, 2002, 2003; 2006; 2008; Royalty Research Fund, 2002, 2004; 2006; 2007.
- Manuscript Reviewer: *American Sociological Review; American Journal of Sociology; Social Problems; Social Forces; Sociological Quarterly; Political Science Quarterly; Law,*

Politics and Society; Law & Policy; Journal of Policy Studies; Politics & Society; Criminology; Criminology and Public Policy; Law & Society Review; Punishment & Society; Law and Social Inquiry.

COMMUNITY

- Volunteer, Concerned Lifers Organization, Monroe Correctional Facility, 2014 to the present.
- Seattle Jobs Assistance Legislation Stakeholder Panel, 2013-14.
- Seattle Race and Social Justice Initiative, Survey Steering Committee, 2013-14.
- Seattle Human Rights Commissioner, 2012- 2014.
- Research Working Group Co-Chair, Task Force on Race and the Criminal Justice System (a joint project of the University of Washington, Seattle University School of Law, and Gonzaga University) 2010-2012.
- Harm Reduction Advocates, Board of Directors, Seattle, Washington, 2007-2008.
- Consultant to the Racial Disparity Project, 2003 - 2010.

EXPERT WITNESS & CONSULTING EXPERIENCE

- *State of Washington v. Allen Gregory*, No. 88086-7. Research, 2013 to the present.
- *Dominic Hardie vs. NCAA.* Research and Declaration, 2013-4.
- *Muhammad Shabazz Farrakhan, (aka Ernest S. Walker), et al v. Gary Locke, et al. No. CS-96-076-RHW. Research and Deposition, 2006-9.*
- *State of Washington v. Nelson*. Research, 2006-8.
- *State of Washington vs. Campbell*. Research and Testimony, 2005-6.
- *Regina Kelly et al v. John Paschall et al.* No. W-03-CA-179. Rebuttal and Deposition, 2003-4.
- *State of Washington v. Alfred K. Johnson et al.* No. 00-07506-1 SEA. Research, 2003-4.

HEATHER D. EVANS

EDUCATION

2009-present — Enrolled in Sociology Ph.D. program, University of Washington
- Dissertation Co-chairs: Alexes Harris and Katherine Beckett
- Committee members: Judith Howard, Jeffrey Brune, and George Lovell
- Dissertation Topic: Legal Consciousness and 'Invisible Disability'

2008 — M.A., Sociology, University of Washington
- Thesis Committee: Alexes Harris (Chair), Katherine Beckett, Gary Hamilton
- Thesis Title: "A City within a City, Citizenship at the Margins."

2005 — B.A., with distinction, Comparative History of Ideas, University of Washington
- Graduated Summa Cum Laude
- Thesis Advisor: Bryan Tilt, Anthropology
- Senior Thesis: "The Spirit of Capitalism: Commonalities between Cultural Narratives of 19th Century America and Contemporary China."

2005 — B.A., Anthropology, University of Washington
- Graduated Summa Cum Laude

2000-2002 — Associate in Arts and Sciences, Graduated with Honors
Shoreline Community College, Shoreline, WA

EXAMS & CERTIFICATIONS

Comparative Law & Society Studies (CLASS) Program Graduate Certificate (Spring 2015)

Dissertation Prospectus Defense & General Exam, Ph.D. Candidacy (Summer 2011)

Minor in Social Statistics, Certification from the Center for Statistics and the Social Sciences (CSSS) (Spring 2010)

Major Area Exam: Institutional Analysis with emphasis in Economic Sociology and Organizations (Winter 2009)

GRANTS

Graduate Student Interest Group on Disability Studies (DS GIG)
Funds to support interdisciplinary graduate scholarship and peer mentorship in the field of Disability Studies. Simpson Center for the Humanities, GIG Grants, University of Washington.

$1,000 (2015-2016)

Harlan Hahn Endowment Fund Disability Studies Grant
Travel, lodging, per diem and registration funds to present at the 2015 Society for Disability Studies (SDS) Conference in Atlanta, GA.
Disability Studies, University of Washington
$2,000 (2015)

Stice Lectureship Collaboration Grant
Collaborator: Jeffrey A. Brune, Associate Professor at Gallaudet University
Grant to bring a faculty member collaborating on research to UW campus to give a Stice Lecture and interact with UW students and faculty. Stice Lectureship Series, University of Washington. Stice Organizing Committee Chair: Edgar Kiser, Dept. of Sociology
$2,264 (2015)

Doctoral Dissertation Research: Legal Consciousness and 'Invisible Disability'
Co-PI: Heather Evans; PI: Alexes Harris. National Science Foundation Dissertation Improvement Grant, Law & Social Sciences Division, No. 1251433 ($9,545) (2013)

AWARDS

Spring 2016	Pamela E. Yee Award for Paper Examining Intersectionality between Gender & Disability. Gender, Women & Sexuality Studies (GWSS) Dept., UW
Spring 2016	Dennis Lang Student Award in Disability Studies. UW Disability Studies
Spring 2015	Harlan Hahn Award. UW Disability Studies
AY 2014-2015	Joff Hanauer Endowment for Excellence in Western Civilization Fellowship
AY 2014-2015	Project for Interdisciplinary Pedagogy (PIP) Teaching Fellowship
Spring 2014	Honorable Mention, Beth Hess Memorial Scholarship
Spring 2014	Alternate, Ford Foundation Dissertation Fellowship
Spring 2013	Harlan Hahn Award. UW Disability Studies
Spring 2013	Honorable Mention, Ford Foundation Dissertation Fellowship
2012	Nominee for UW Graduate School Medal
2010	UW Nominee for Dolores Liebmann Fellowship
2008	Teaching Assistant Award. Dept. of Sociology, UW
2008	Honorable Mention, Ford Foundation Diversity Predoctoral Fellowship
Spring 2006	President's Medal. University of Washington
2004/2005	Leona Hickman Scholarship. University of Washington
Summer 2004	Undergraduate Scholarship. University of Washington
2004	Goddard Scholarship. Winter 2004, Spring 2004
2003-2004	University Undergraduate Research Grant. University of Washington
2000-2004	State Need Grants, Higher Education Coordinating Board, State of WA

TEACHING EXPERIENCE

Win 2016	Pre-Doctoral Lecturer, Interdisciplinary Studies 490: Representations of Disability in Society, Community Based Learning & Research (CBLR), UW Bothell
SP 2016,2015 Au 2014, 2015	Pre-Doctoral Lecturer, Interdisciplinary Studies 325: Disability & Human Rights, UW Bothell
Win 2015	Pre-Doctoral Lecturer, Interdisciplinary Studies 312: Approaches to Social Science Research, UW Bothell
Au 2013 & Sp 2012	Pre-Doctoral Instructor, Law Society & Justice 490: Invisibility & the Law: Identity at the Legal Margins
Au 2008	Teaching Assistant, Undergraduate course: Intro to Sociological Methods
AY 2007-2008 AY 2006-2007	Teaching Assistant, Graduate courses: Applied Social Statistics; Methodology; Quantitative Techniques in Sociology
AY 2005-2006	Teaching Assistant, Undergraduate courses: Intro to Sociology; Social Change in the Developing World; Sociological Theory

MENTORSHIP EXPERIENCE

Sp 2016	Second Mentor, Undergraduate Research Project, Whitney Corthell, UW Bothell: "Geography of Opportunity: Place and space as determinates of postsecondary outcomes in the lives of youth with disabilities" First Mentor: Jason Naranjo, Assistant Professor, UWB School of Education Studies
Win 2016- Sp 2016	Advisor, supervising Independent Study student Judi Rash on research paper, Society Ethics & Human Behavior Dept, UW Bothell. Title: "The Intersection of Gender, Disability & Socioeconomic Status in Primary School"
Sp 2015- Fall 2016	Thesis Advisor, supervising Independent Study student Marcella Ascoli on Undergraduate Senior Thesis, Society Ethics & Human Behavior Dept, UW Bothell. Title: "Disabled Space: an Examination of Accessibility of King County Parks"
Win 2015- Fall 2016	Thesis Advisor, supervising Independent Study student Micaella Rosner on Undergraduate Senior Thesis, Society Ethics & Human Behavior Dept, UW Bothell. Title: "Factors in Individuals' Knowledge of Their Own Gender Identities"
Sp 2015	Second Reader, Capstone Thesis Paper for MA student Cole Jensen,

	Master of Arts in Policy Studies, UW Bothell: "The International Symbol of Access: The perception of disability" Thesis Chair: Bruce Kochis, Senior Lecturer, UWB IAS
Win 2014-Spring 2015	Thesis Advisor, supervised Independent Study student Varsha Govindaraju on undergraduate Honors Thesis, Law Society & Justice Dept, UW. Title: "Constructing Choice: Sex Politics, Feminism, and Legal Policy in Seattle"
AY 2015-2016	Organizer, Disability Studies Graduate Interest Group (DS GIG), graduate student peer mentorship group, UW
AY 2014-2015	Co-Organizer, Comparative Law & Society Studies (CLASS) graduate student peer mentorship & writing group, UW
AY 2013-2014	Organizer, Writing Accountability Group (WAG) – graduate student peer mentorship and writing group, Sociology, UW

DISABILITY SERVICES & CURRICULUM DEVELOPMENT EXPERIENCE

June 2016-present	Accessible Text & Technology Assistant, for Bree Callahan, Director of Disability Resources for Students (DRS). Work with DRS to develop faculty accessibility training and toolkit. Partner with Integrated Social Sciences Program to develop accessibility templates for online and hybrid courses.

RESEARCH EXPERIENCE

Jan 2015-Oct 2015	Research Assistant, to Dr. Katherine Beckett for Clean Slate Project. Assisting with data analysis of all felony convictions in WA State 1986-2013.
Sept 2011-June 2014	Research Assistant, to Dr. Alexes Harris, UW. Assisting with quantitative and qualitative data analysis of legal financial obligations (LFOs).
Sept 2012-Mar 2013	Researcher, with Dr. Katherine Beckett for NW Defenders Association. Analyzed King County jail admissions data examining impact that Immigration and Customs Enforcement (ICE) practices have on county jails.
Oct-Dec 2011	Research Assistant, to Dr. Katherine Beckett, UW. Assisted in data cleaning and analysis of Washington State prison admission data to determine longitudinal trends and racial disparities.

Jan 2009-Sept 2011	Research Assistant, Center for Workforce Development, UW. Tasks included data management, statistical analysis, writing evaluation reports and research papers on data collected for three NSF grants: Northwest Engineering Talent Expansion Project (NW-ETEP), Pacific Northwest Louis Stokes Alliance Minority Participation (PNW-LSAMP), and MESA Community College Program (MCCP).
Mar-May 2010	Statistics Consultant, to Dr. Steve Herbert for follow-up to 2009 evaluation study of three public safety/human services programs in Seattle, WA. Assisted in identifying data elements and developing data collection instruments to enable annual program evaluations.
Jul-Sept 2009	Statistics Consultant, to Dr. Steve Herbert for evaluation study of three public safety/human services programs in Seattle, WA. Provided statistical support to evaluation team.
Jul-Dec 2007	Research Assistant for Drs. Alexes Harris and Katherine Beckett on Legal Financial Obligations Study. Participated in quantitative data analysis and qualitative data collection, producing OLS and HLM statistical analyses and conducting interviews in multiple counties.

MA THESIS

"A City within a City, Citizenship at the Margins." Ethnographic research collected at a homeless encampment in Seattle, Washington over two-year period. (Defended 12/9/08)

PUBLICATIONS & RESEARCH REPORTS

Beckett, Katherine and Heather Evans. (2015). "Crimmigration at the Local Level: Criminal Justice Processes in the Shadow of Deportation." *Law & Society Review* 49(1): 241-277.

Beckett, Katherine and Heather Evans. (2014). "The Role of Race in Washington State Capital Sentencing, 1981-2014."

Beckett, Katherine and Heather Evans. (2013). "Immigration Detainer Requests in King County, Washington: Costs and Consequences." Report Commissioned by the Northwest Defender's Association.

Harris, Alexes, Heather Evans and Katherine Beckett. (2011). "Courtesy Stigma and Monetary Sanctions: Toward a Socio-Cultural Theory of Punishment." *American Sociological Review* 76(2): 234-264.

Harris, Alexes, Heather Evans and Katherine Beckett. (2010). "Drawing Blood from Stones: Legal Debt and Social Inequality in the Contemporary United States." *American Journal of Sociology* 115(6): 1753-1799.

Evans, Heather and Priti Mody-Pan. (2010). "Using an Adaptive Tinto Framework to Interpret Successes of Two-Year Institutions in Retaining STEM Students," *American Society for Engineering Education* 2010, AC 210-1414.

Beckett, Katherine, Alexes Harris and Heather Evans. (2008). "The Assessment and Consequences of Legal Financial Obligations in Washington State." Report Commissioned by the Washington State Minority and Justice Commission.

MANUSCRIPTS UNDER REVIEW & WORKING PAPERS

"Un/covering: Making Disability Identity Legible," submitted to *Disability Studies Quarterly* June 2016.

"Legal Consciousness & Disability Identity: A Challenge to Neoliberalism," working paper. To be submitted to *Law & Social Inquiry*.

"Citizenship in Alternative Communities," working paper.

CONFERENCE PAPERS & PUBLIC PRESENTATIONS

May 14, 2016	Paper Workshop Participant, Pacific Western Disability Studies (PWDS) Symposium, Seattle WA: "Un/covering: Making Disability Identity Legible"
April 22, 2016	Guest Lecturer for Sociology 271, UW: Intro to the Sociology of Deviance & Social Control: "Disability, Stigma & Passing"
Feb 5, 2016	Presenter, UW Disability Studies Brown Bag: "Living the Paradox of 'Invisible Disability': A Phenomenological Analysis of Acquired Impairment"
Oct 28, 2015	Guest Lecturer for DIS ST 230, Intro to Disability Studies, UW: "Disability Identity: Stigma and Passing"
June 12, 2015	Presenter, Society for Disability Studies Conference, Atlanta GA: " 'Uncovering': Disability Stigma & Identity Management"
May 28, 2015	Presenter, Law & Society Association 2015 Conference: "Developing Disability Consciousness: Legal Consciousness in the Making"
May 22, 2015	Virtual presentation, Pacific and Western Disability Studies Symposium: " 'Uncovering': Disability Stigma & Identity Management"
Feb 26, 2015	Co-Presenter with Jeffrey A. Brune from Gallaudet University, UW Stice Lectureship: "Fear of Fakery: Disability Stigma in the Past and Present"
June 13, 2014	Presenter, Society for Disability Studies Conference: "Legal Consciousness and 'Invisible Disability"

May 2, 2014	Presenter, UW Disability Studies Brown Bag: "'Disability Consciousness': Identity and Impairment under the Legal Lamp Post"
March 7, 2014	Presenter, UW Sociology Department Colloquium: "Living a Paradox: A Phenomenological Analysis of Invisible Disability"
Sept 20-21, 2013	Graduate Student Participant, West Coast Law & Society Retreat
March 28, 2013	Invited Participant, with Katherine Beckett, Washington State House of Representatives' Public Safety Committee Work Session on Federal Immigration Policy and Secure Communities, related to HB 1874
May 11, 2012	Presenter, Deviance Seminar, UW: "Disability & the Law: Identity under the Legal Lamp Post"
March 30, 2012	Presenter, 2012 Sociology Graduate Research Symposium: "Technology & Qualitative Research"
April 9, 2011	Roundtable discussant, 2011 Sociology Graduate Research Symposium: "Legal Consciousness among People with Invisible Disabilities"
June 22, 2010	2010 ASEE Conference: "Using an Adaptive Tinto Framework to Interpret Successes of Two-Year Institutions in Retaining STEM Students"
April 14, 2010	2010 NAMEPA/WEPAN Conference: "Interpreting Successes of a Community College-University Partnership in Retaining Underrepresented Engineering Students"
April 3, 2010	Roundtable discussant, 2010 Sociology Graduate Research Symposium: "Citizenship in Alternative Communities"
April 17, 2009	Guest Lecturer, LSJ 409: "Tent City 3: A City within a City"
May 23, 2008	Deviance Seminar, UW: "Tent City 3: Exploring Notions of Citizenship in a Homeless Shelter"
Nov. 9, 2006	Shoreline Community College Annual Fundraiser: "The Role of Community College in the Lives of Nontraditional Students"
May 21, 2005	Asian Languages & Literature Graduate Student Colloquium: "Dagong, Working for the Boss in Industrial Capitalism: a Look at Cultural Narratives of Contemporary China and 19th Century America"
May 13, 2005	Undergraduate research Symposium: "The Spirit of Capitalism: A Look at Cultural Narratives of Contemporary China and 19th Century America"

PROFESSIONAL ASSOCIATIONS

2015-present	Law & Society Review, reviewer
2015-present	Law & Society Association, member
2014-present	Society for Disability Studies, member
2013-2015	Social Problems, reviewer
2010-present	American Journal of Sociology, reviewer
2009-present	Sociologists for Women in Society, member
2008-present	American Sociological Association, member

2005-present	Phi Beta Kappa Society, member

VOLUNTEER & SERVICE ACTIVITIES

Sp 2016	Co-organizer, Visiting scholar Eli Clare Presentations on UW Bothell campus April 27th & 28th
Sp 2016	Co-organizer, Visiting scholar Riva Lehrer Presentation on UW Bothell campus May 12th
2015-2016	Co-Organizer, Pacific & Western Disabilities Studies Symposium: Making Disability Public: Arts, Scholarship, and Activism, May 12-14, 2016
2015-2016	Organizer, Disability Studies Graduate Interest Group (DS-GIG)
2015-present	Co-Chair, UW Committee on Disability Issues (CDI)
Sp 2015	Volunteer, Pacific and Western Disability Studies Symposium, Seattle WA
Win 2015	Organizer, Guest Speaker Jeffrey A. Brune from Gallaudet University talk at UW Bothell: "Disability and Passing"
Win 2015	Co-organizer, FIXED Film Event, Q&A with Documentarian Regan Brashear
2013-2014	Member, UW Committee on Disability Issues (CDI)
2012-2013	Comparative Law & Society Studies (CLASS) Graduate Fellows Executive Committee, UW
2010-2011	Co-organizer, UW Sociology Graduate Student Research Symposium
2009-2010	President, Sociology Graduate Student Association
2009-2010	Co-organizer, Sociology Graduate Student Research Symposium
Sp 2008	Campus Host and Organizer, UW 'Nickelsville Rally' (Homeless Encampment)
2007, 2008	Volunteer, One Night Count, Seattle/King County Coalition on Homelessness
2006-2008	Volunteer, Women's Housing Equality and Enhancement League (WHEEL)

IN THE SUPREME COURT OF THE STATE OF WASHINGTON

STATE OF WASHINGTON, Respondent, v. ALLEN GREGORY, Appellant.	)))))))))	NO. 88086-7

DECLARATION OF DOCUMENT FILING AND SERVICE

I, MARIA ARRANZA RILEY, STATE THAT ON THE 25TH DAY OF AUGUST, 2016, I CAUSED THE ORIGINAL **RESPONSE TO THE STATE'S EVALUATION OF "THE ROLE OF RACE IN WASHINGTON STATE CAPITAL SENTENCING"** TO BE FILED IN THE **WASHINGTON STATE SUPREME COURT** AND A TRUE COPY OF THE SAME TO BE SERVED ON THE FOLLOWING IN THE MANNER INDICATED BELOW:

[X] KATHLEEN PROCTOR, DPA	( )	U.S. MAIL
JOHN NEEB, DPA	( )	HAND DELIVERY
PIERCE COUNTY PROSECUTOR'S OFFICE	(X)	E-MAIL
[PCpatcecf@co.pierce.wa.us]		
[X] NEIL FOX	( )	U.S. MAIL
LAW OFFICES OF NEIL FOX, PLLC	( )	HAND DELIVERY
[nf@neilfoxlaw.com]	(X)	E-MAIL

SIGNED IN SEATTLE, WASHINGTON THIS 25TH DAY OF AUGUST, 2016.

X_____

Washington Appellate Project
701 Melbourne Tower
1511 Third Avenue
Seattle, WA 98101
☎(206) 587-2711

WASHINGTON APPELLATE PROJECT

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RESPONSE TO STATE'S EVALUATION OF "THE ROLE OF RACE IN WASHINGTON STATE CAPITAL SENTENCING"

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