

Minority Mens Rea: Racial Bias and Criminal Mental States

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The American criminal justice system relies upon jurors to regularly decode the mental states of criminal defendants. These determinations are often of black and Hispanic defendants, making “minority mens rea” a centerpiece of the justice process. This Article presents an empirical investigation of how jury eligible subjects decode minority mens rea. In a study involving over 1200 subjects, the Article explores whether subjects assign fictional protagonists named Jamal and Lakisha more culpable mental states than they assign to protagonists named John and Emily. The results show that, at least on this particular experimental task, racial bias does not affect the assessment of minority mens rea. An implication is that some decisionmaking contexts and tasks may dampen the effects of racial biases. The Article thus argues that we should continue to examine distinct legal decisionmaking tasks in order to better understand how biases do (and do not) affect outcomes in the criminal justice system.

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TABLE OF CONTENTS

INTRODUCTION.....	1008
I. RACIAL DISPARITIES, IMPLICIT BIAS, AND MENS REA	1010
A. KNOWN AND UNKNOWN ABOUT RACE AND CRIMINAL JUSTICE OUTCOMES.....	1010
B. IMPLICIT RACE BIAS.....	1014
II. STUDY DESIGN	1017
A. EMILY, GREG, LAKISHA, AND JAMAL	1017
B. STUDYING MENTAL STATE ATTRIBUTIONS.....	1019
C. CREATING A HYBRID DESIGN.....	1023
III. RESULTS	1028
A. STUDY PARTICIPANTS.....	1029
B. SUMMARY OF RESULTS.....	1030
IV. DISCUSSION	1035
A. LIMITS AND CAUTIONS.....	1035
B. EXPLAINING THE RESULTS: PSYCHOLOGY AND NEUROSCIENCE PERSPECTIVES	1036
C. THE NEED FOR MORE RESEARCH.....	1042
CONCLUSION	1046
APPENDIX A: STATISTICAL DETAILS.....	1047
APPENDIX B: FULL TEXT OF SCENARIOS.....	1056

INTRODUCTION

Mens rea and race. Both are central to the contemporary practice and understanding of American criminal justice, but for countervailing reasons. Mens rea (Latin for “guilty mind”) *should* matter in criminal adjudication because we desire to prosecute only those whose bad acts are accompanied by a sufficiently bad mental state.¹ In contrast, race *should not* matter because a defendant’s race is never an element of a crime and the Sixth Amendment requires that in “all criminal prosecutions, the accused shall enjoy the right to . . . an impartial jury”²

Yet, given the pervasiveness of racial disparities in the American criminal justice system, many think it unrealistic that jurors can and do neutrally assess mens rea without regard to the race of criminal defendants. If jurors treat criminal defendants differently on account of their race, it would be a miscarriage of justice and a constitutional

1. In the Teacher’s Manual to the most adopted criminal law casebook in the United States, the author of the treatise announces that “mens rea is by far the most important general doctrine students will learn during the semester.” JOSHUA DRESSLER & STEPHEN P. GARVEY, *TEACHER’S MANUAL TO CASES AND MATERIALS ON CRIMINAL LAW 5-1* (6th ed. 2012).

2. U.S. CONST. amend. VI.

violation. It is thus important to know whether jurors systematically assess “minority mens rea” with greater culpability than similarly situated white defendants. This Article presents the results of a series of sixteen original online experiments that explore this question.

Specifically, the experiments explore how jury eligible American subjects assign mental states within the hierarchy of the Model Penal Code, which delineates mental states into (1) purposeful; (2) knowing; (3) reckless; and (4) negligent.³ The Article explores whether subjects are more likely to choose a more culpable mental state when the protagonist they are evaluating is named Lakisha or Jamal, as compared to Emily or John. With over 1200 subjects, each evaluating thirty scenarios, a total of over 36,000 unique assessments of mental states were analyzed.

The results find that on this experimental task, mens rea of black protagonists is evaluated in the same way as mens rea of white protagonists. For example, subjects are *not* more likely to find that Jamal acted recklessly instead of negligently. Nor are subjects more likely to give John a break, and find him reckless instead of purposeful. The same patterns of equality play out for Lakisha and Emily as well. Even accounting for the age of the protagonist, and a host of subject demographics, the results hold.

The results run counter to the expectation that jurors would—perhaps unconsciously and despite their best efforts not to—be swayed by race. The results do not, of course, suggest that race is not salient for the criminal justice system. Rather, and perhaps hopefully, they suggest that although race often matters, it does not matter in *every* context and for *every* type of decisionmaking task.

What accounts for these null results? The Article suggests a series of plausible, if necessarily speculative, explanations for the results. One compelling explanation, grounded in cognitive psychology and neuroscience research, is that the particular type of experiment I ran—where subjects were required to focus intensely on the mental state of the protagonist and not the protagonist’s name—distracted subjects from the question of skin color. I hypothesize that my subjects’ brains likely did not encode the race of the scenario protagonist in as salient a way as they might have in a different type of experiment (or in a real courtroom setting).

Are there ways in which a system of adjudication might be designed such that race is less likely to be encoded? The results here suggests that we further investigate implicit bias claims to better understand exactly how those biases lead (or do not lead) to unjust outcomes.

The Article proceeds in five parts. Part I reviews existing literature. Part II discusses the empirical methods used. Part III presents the results of the study. Part IV discusses the implications of these results. And Part V concludes the Article.

3. See *infra* Part II.B.

I. RACIAL DISPARITIES, IMPLICIT BIAS, AND MENS REA

Scholars have been studying the relationship between race and criminal justice outcomes for many years. This Part summarizes, in Subpart A, the main findings of that research, noting both what we know and what we do not. Subpart B then discusses the more recent emergence of dialogue around implicit race bias.

A. KNOWN AND UNKNOWN ABOUT RACE AND CRIMINAL JUSTICE OUTCOMES

Scholars and advocates agree that across a variety of indicators there are great racial disparities among criminal justice outcomes in the United States.⁴ For instance, blacks and Latinos account for more than half of all prisoners in the United States.⁵ Many theories, some complementary and some at odds with one another, have been advanced about the causes of these disparities.⁶ Analyses have considered the role of the police,⁷ judges,⁸ sentencing,⁹ prosecutors,¹⁰ defense attorneys,¹¹

4. MICHAEL TONRY, *PUNISHING RACE: A CONTINUING AMERICAN DILEMMA* 38 (2011) (“The disproportionate presence of blacks in American prisons and jails has not changed substantially since 1980.”); CASSIA SPOHN, *Race, Crime, and Punishment in the Twentieth and Twenty-First Centuries*, 44 *CRIME & JUST.* 49, 55 (2015) (“Data on the race of those admitted to state and federal prisons confirm this trend. As shown in figure 1, blacks constituted 21 percent of prison admissions in 1926; they made up 30 percent in 1950, 39 percent in 1970, 41 percent in 1980, and 44 percent in 1986. By 1990, blacks constituted more than half of all persons admitted to state and federal prisons.”); ANGELA J. DAVIS, *In Search of Racial Justice: The Role of the Prosecutor*, 16 *N.Y.U. J. LEGIS. & PUB. POL’Y* 821, 822 (2013) (“The racial disparities in our criminal justice system are extraordinary and well-documented.”); JONATHAN A. RAPPING, *Implicitly Unjust: How Defenders Can Affect Systemic Racist Assumptions*, 16 *N.Y.U. J. LEGIS. & PUB. POL’Y* 999, 1000 (2013) (“Arguably, no feature of America’s criminal justice system is more obvious than its disparate impact on people of color.”); ANITA KALUNTA-CRUMPTON & KINGSLEY EJIJOGU, *Race, Ethnicity, Crime and Criminal Justice in the United States*, in *RACE, ETHNICITY, CRIME AND CRIMINAL JUSTICE IN THE AMERICAS* 41, 58 (Anita Kalunta-Crumpton ed., 2012) (reviewing current statistics and scholarship and concluding that “one can say for a fact that race matters”).

5. ARTHUR H. GARRISON, *Disproportionate Incarceration of African Americans: What History and the First Decade of Twenty-First Century Have Brought*, 2011 *J. INST. JUST. & INT’L STUD.* 87, 92 (2011); PAUL GUERINO ET AL., *PRISONERS IN 2010* 26 (rev. ed. 2012), <https://www.bjs.gov/content/pub/pdf/p10.pdf>; THE SENTENCING PROJECT, *REDUCING RACIAL DISPARITY IN THE CRIMINAL JUSTICE SYSTEM: A MANUAL FOR PRACTITIONERS AND POLICYMAKERS* 11 (2000), <http://www.sentencingproject.org/wp-content/uploads/2016/01/Reducing-Racial-Disparity-in-the-Criminal-Justice-System-A-Manual-for-Practitioners-and-Policymakers.pdf>.

6. ROBERT J. SMITH ET AL., *Implicit White Favoritism in the Criminal Justice System*, 66 *ALA. L. REV.* 871, 877 (2015) (“While most commentators agree that these racial disparities are not predominately a consequence of purposeful discrimination, there is comparatively little consensus on why these disparities continue to infect the criminal justice system so thoroughly.”); DAVIS, *supra* note 4, at 822 (“Much has been written about why the American criminal justice system is so fraught with racial disparity.”); SPOHN, *supra* note 4, at 52 (“Criminologists and legal scholars use three complementary perspectives to explain the persistence of racial disparities.”).

7. For discussions on the interplay between law enforcement and criminal justice outcomes, see generally SHIMA BARADARAN, *Race, Prediction, and Discretion*, 81 *GEO. WASH. L. REV.* 157 (2013); L. SONG RICHARDSON, *Arrest Efficiency and the Fourth Amendment*, 95 *MINN. L. REV.* 2035 (2011); VICTOR M. RIOS, *PUNISHED: POLICING THE LIVES OF BLACK AND LATINO BOYS* (2011).

legislators,¹² and federal drug policy,¹³ among other explanations. The causes of the disparities are likely numerous and interrelated.

Central to these discussions is how race affects jury decisionmaking. Researchers have examined data on jury decisions, spoken with jurors after trials, and conducted experimental studies.¹⁴ Many studies have found evidence of racial preferences by jurors. For instance, a study that examined jury outcomes in ten years' worth of felony trials in Florida found that "the presence of even one or two blacks in the jury pool results in significantly higher conviction rates for white defendants and lower conviction rates for black defendants."¹⁵ Yet other studies have found null results, and despite two decades of research we are still limited in our understanding of how, precisely, race intersects with juror decisionmaking.¹⁶

8. See generally Jeffrey J. Rachlinski et al., *Does Unconscious Racial Bias Affect Trial Judges?*, 84 NOTRE DAME L. REV. 1195 (2009) (discussing implicit bias in trial judges).

9. See generally Traci Burch, *Skin Color and the Criminal Justice System: Beyond Black-White Disparities in Sentencing*, 12 J. EMPIRICAL LEGAL STUD. 395 (2015) (examining disparity in sentencing outcomes between different races).

10. For information on prosecutors and racial bias, see generally Davis, *supra* note 4; Kristin Henning, *Criminalizing Normal Adolescent Behavior in Communities of Color: The Role of Prosecutors in Juvenile Justice Reform*, 98 CORNELL L. REV. 383 (2013).

11. Rapping, *supra* note 4, at 1000 (arguing that defense attorneys must recognize how implicit racial bias may affect their representation of clients).

12. See generally MICHAEL TONRY, *MALIGN NEGLECT: RACE, CRIME, AND PUNISHMENT IN AMERICA* (1996) (discussing crime and social welfare policy, racial disproportion in sentencing, the war on drugs, social adversity, and other topics).

13. MICHELLE ALEXANDER, *THE NEW JIM CROW: MASS INCARCERATION IN THE AGE OF COLORBLINDNESS* 100 (2010) ("What is painfully obvious when one steps back from individual cases and specific policies is that the system of mass incarceration operates with stunning efficiency to sweep people of color off the streets, lock them in cages, and then release them into an inferior second-class status."). But see James Forman, Jr., *Racial Critiques of Mass Incarceration: Beyond the New Jim Crow*, 87 N.Y.U. L. REV. 21, 22 (2012) (offering a critique arguing that the New Jim Crow analogy is problematic).

14. There are three main methodologies that researchers use in examining this relationship: (1) archival analysis of verdicts in actual cases; (2) post-trial interviews with jurors; and (3) mock juror experiments in which different versions of a trial summary are presented to research participants in a controlled setting. For reviews, see generally Samuel R. Sommers, *Race and the Decision Making of Juries*, 12 LEGAL & CRIMINOLOGICAL PSYCHOL. 171 (2007); Phoebe C. Ellsworth & Samuel R. Sommers, *How Much Do We Really Know About Race and Juries? A Review of Social Science Theory and Research*, 78 CHI.-KENT L. REV. 997 (2003).

15. Shamera Anwar et al., *The Impact of Jury Race in Criminal Trials*, 127 Q.J. ECON. 1017, 1019 (2011).

16. Ellsworth & Sommers, *supra* note 14, at 1029 ("One conclusion of our review of this literature is that there is currently less there than meets the eye."); John M. Conley et al., *The Racial Ecology of the Courtroom: An Experimental Study of Juror Response to the Race of Criminal Defendants*, 2000 WIS. L. REV. 1185 (finding that, although black defendants were convicted at a significantly higher rate than white counterparts of the same socioeconomic status, differences in likeability and believability of the defendant and witnesses tended to favor black defendants); Dennis J. Devine & David E. Caughlin, *Do They Matter? A Meta-Analytic Investigation of Individual Characteristics and Guilt Judgments*, 20 PSYCHOL. PUB. POL'Y & L. 109 (2014) (finding no significant impact explicitly related to race but finding correlations between juror characteristics and guilt in the areas of

For example, some studies have found that white jurors' responses to a defendant's race cannot be predicted accurately.¹⁷ The racial composition of the jury as a whole may also play a role in jury decisionmaking, especially when the defendant belongs to a racial minority and there is no one on the jury who is the same race as the defendant; or, conversely, when the victim belongs to a racial minority and the jury is predominantly of the same race as the defendant.¹⁸ More diverse juries, even with just one juror of the same race as a minority defendant, may help to eliminate biased decisionmaking during jury deliberations.¹⁹

Race may influence the actions of a jury in numerous stages of a trial.²⁰ For example, the race of both a witness and jury members may impact a jury's ability to accurately determine the witness's credibility.²¹ Racial bias may also affect the ability of judges and juries to accurately encode and recall evidence presented throughout a trial, as evidenced by a study of implicit bias and factual recall.²² Race may also affect the outcome of jury deliberations, as suggested by a study of the relationship

defendant socioeconomic status, defendant criminal record, juror authoritarianism, and juror trust in the legal system—each of these areas could be implicitly linked to race); Tara L. Mitchell et al., *Racial Bias in Mock Juror Decision-Making: A Meta-Analytic Review of Defendant Treatment*, 29 *LAW & HUM. BEHAV.* 621 (2005). Resolving contradicting previous meta-analyses, Mitchell and her co-authors reviewed thirty-four studies and concluded that there were small but significant effects for racial bias in both verdict and sentencing decisions. *See id.* They also found that several moderator variables impacted the size of these effects, including the race of mock jurors, the presence of jury instructions, when a study was conducted (comparing the 1970s with later years), and the construction of the guilt variable. *Id.*

17. Ellsworth & Sommers, *supra* note 14, at 1008 n.36, 1009 n.38 (citing Ramsey McGowen & Glen D. King, *Effects of Authoritarian, Anti-Authoritarian, and Egalitarian Legal Attitudes on Mock Juror and Jury Decisions*, 51 *PSYCHOL. REP.* 1067 (1982) (introducing the possibility of socioeconomic status as a confounding variable); Paul Skolnick & Jerry I. Shaw, *The O. J. Simpson Criminal Trial Verdict: Racism or Status Shield?*, 53 *J. SOC. ISSUES* 503 (1997) (pointing out that this study may not be generalizable given the notoriety of the Simpson case)).

18. Nancy J. King, *Postconviction Review of Jury Discrimination: Measuring the Effects of Juror Race on Jury Decisions*, 92 *MICH. L. REV.* 63, 81 (1993) (noting that the absence of a common racial identity between the defendant and any jury members is viewed by judges as creating a risk of prejudice, and citing studies that show white jurors are more likely than black jurors to convict black defendants and to acquit defendants charged with crimes against black victims); *see also* Sommers & Ellsworth, *supra* note 14, at 1020–21 (finding that black jurors exhibited same-race leniency in studies where mock jurors were asked to provide guilt ratings for both black and white defendants).

19. King, *supra* note 18, at 84 (citing several studies demonstrating that a diverse jury reduces disparities in conviction rates between white and minority defendants).

20. *See generally* Anthony V. Alfieri, *Race Trials*, 76 *TEX. L. REV.* 1293 (1998) (providing an overview of race-salient trials and discussion of race-conscious jurisprudence).

21. Joseph W. Rand, *The Demeanor Gap: Race, Lie Detection, and the Jury*, 33 *CONN. L. REV.* 1 (2000) (proposing the existence of a “demeanor gap” in cross-racial demeanor evaluation of witnesses that undermines accuracy in determining a witness's credibility).

22. Justin D. Levinson, *Forgotten Racial Equality: Implicit Bias, Decisionmaking, and Misremembering*, 57 *DUKE L.J.* 345, 348 (2007) (finding that participants who read a story about an African-American character were more likely to remember aggressive facts from the story than those who read about a Caucasian character and that these results were not related to explicit racial bias).

between diverse juries and the likelihood of a hung jury.²³ Additionally, there is a body of literature concerning the effects of race on sentencing, particularly in death penalty cases.²⁴

The interaction between juror race, the strength of the evidence, and the ultimate verdict is not always clear. Some studies suggest that the effect of race on decisionmaking is only significant when evidence is inconclusive.²⁵ However, other studies find that race may still play a significant role even when other evidence is persuasive, perhaps because jurors are evaluating the strength of the evidence through a racially biased lens.²⁶ For example, one study found that the introduction of surveillance camera footage of a darker-skinned perpetrator (as compared to footage of a lighter-skinned perpetrator) was more likely to lead jurors to judge the body of evidence as tending to indicate guilt.²⁷

Researchers have focused on both how and why race affects jury decisionmaking. Psychological concepts such as ingroup bias,²⁸ the “false consensus” effect,²⁹ and implicit bias, as well as the salience of race issues in a given trial help to explain these effects.³⁰ Nonetheless, it is often

23. Kenneth S. Klein & Theodore D. Klatorin, *Do Diverse Juries Aid or Impede Justice?*, 1999 WIS. L. REV. (SPECIAL ISSUE) 553, 562 (finding, in an analysis of 193 cases, that there is a small increase in the likelihood of a hung jury when juries are composed of multiple ethnic groups, particularly when the defendant is African-American or Latino/Latina).

24. For a discussion surrounding racial bias and death sentencing, see generally Andrew E. Taslitz, *Racial Threat Versus Racial Empathy in Sentencing—Capital and Otherwise*, 41 AM. J. CRIM. L. 1, 4 (2013) (arguing that white juror’s empathy for white victims “undercuts their empathy for black offenders”); William J. Bowers et al., *Death Sentencing in Black and White: An Empirical Analysis of the Role of Jurors’ Race and Jury Racial Composition*, 3 U. PA. J. CONST. L. 171 (2001) (finding that the dominance of white male jurors was strongly associated with imposition of a death sentence in black-defendant/white-victim cases while the presence of black male jurors was strongly associated with the imposition of a life sentence in those cases); Kenneth Williams, *The Death Penalty: Can It Be Fixed?*, 51 CATH. U. L. REV. 1177 (2002) (discussing racism and the death penalty).

25. King, *supra* note 18, at 75 n.42 (citing VALERIE P. HANS & NEIL VIDMAR, *JUDGING THE JURY* 79–94 (1986)).

26. *Id.* at 86 n.80 (citing H.S. FIELD & L.B. BIENEN, *JURORS AND RAPE: A STUDY IN PSYCHOLOGY AND LAW* 135–36 (1980)); see also *id.* at 78 (“Because racial background may influence a juror’s judgment of whether any given story is a reasonable explanation of events, black and white jurors may reach different conclusions after evaluating the same evidence.”).

27. Justin D. Levinson & Danielle Young, *Different Shades of Bias: Skin Tone, Implicit Racial Bias, and Judgments of Ambiguous Evidence*, 112 W. VA. L. REV. 307, 310 (2010).

28. Ingroup bias is a tendency to judge more favorably those who are perceived to be in the same social group. Pascal Molenberghs, *The Neuroscience of In-Group Bias*, 37 NEUROSCIENCE & BIOBEHAVIORAL REVS. 1530, 1530 (2013).

29. The false-consensus effect is the tendency for people to “see their own behavioral choices and judgments as relatively common and appropriate to existing circumstances while viewing alternative responses as uncommon, deviant, or inappropriate.” Gary Marks & Norman Miller, *Ten Years of Research on the False-Consensus Effect: An Empirical and Theoretical Review*, 102 PSYCHOL. BULL. 72, 72 (1987).

30. King, *supra* note 18, at 79. King notes that ingroup bias causes jurors to empathize with or subconsciously favor members of one’s own race. She also mentions “the ‘false consensus’ effect—the tendency to see one’s own judgment as the common response while viewing alternative judgments as deviant or inappropriate.” *Id.* King also notes that the salience of racial issues in a trial “heighten[s]

difficult to measure the extent of these effects given limitations in research methodology and the nature of human decisionmaking (both as individuals and in groups).³¹ This may pose a problem, for example, when courts are asked to evaluate jury discrimination during post-conviction relief proceedings.³² In sum, research to date makes clear that race often affects legal outcomes, but the precise mechanisms by which those effects are brought about remain unclear.

B. IMPLICIT RACE BIAS

An increasingly cited explanation for the aforementioned disparities is implicit racial bias.³³ As recently summarized, “[t]he overriding theme in this work is that implicit negative stereotypes of black Americans as hostile, violent, and prone to criminality create a lens through which criminal justice actors automatically perpetuate inequality.”³⁴

Over the past decade scholars have increasingly considered the use of implicit racial bias arguments in legal cases.³⁵ Studies have found that

the effect of juror race on jury decision-making” and cites racially charged accusations or defenses, presence of a black defense attorney, reliance on black defense witnesses, and exposure to racial slurs as examples. *Id.* at 86. *Contra* Ellsworth & Sommers, *supra* note 14, at 998 (proposing that the salience of racial issues at trial reduces the likelihood of jurors to demonstrate racial bias and citing results from the author’s 2000 study); Cynthia Lee, *Making Race Salient: Trayvon Martin and Implicit Bias in a Not Yet Post-Racial Society*, 91 N.C. L. REV. 101 (2013) (advocating for calling attention to race as a way to reduce the effects of implicit racial bias).

31. Ellsworth & Sommers, *supra* note 14, at 997 (listing the three main methodologies for research in this area: (1) archival analysis of verdicts in actual cases; (2) post-trial interviews with jurors; and (3) mock juror experiments in controlled settings with manipulated variables); *see also* King, *supra* note 18, at 11 (noting that studies of groups other than juries may also provide relevant information about the effect of juror demographics on decisionmaking). *See generally* Mitchell J. Frank & Osvaldo F. Morera, *Trial Jurors and Variables Influencing Why They Return the Verdicts They Do—A Guide for Practicing and Future Trial Attorneys*, 65 BAYLOR L. REV. 74 (2013) (discussing factors influencing jury behavior, including race-related variables).

32. *See* King, *supra* note 18, at 67–72 (highlighting the Supreme Court’s inconsistencies in judicial review of possible racial discrimination by a jury and arguing that the current standards of review in this area require reform).

33. Darren Lenard Hutchinson, “Continually Reminded of Their Inferior Position”: *Social Dominance, Implicit Bias, Criminality, and Race*, 46 WASH. U. J.L. & POL’Y 23, 28 (2014) (“Legal scholars and social scientists argue that implicit bias explains strong racial disparities in numerous social contexts that are bound by legal antidiscrimination requirements.”).

34. Smith et al., *supra* note 6, at 874.

35. *See generally* Jerry Kang & Kristin Lane, *Seeing Through Colorblindness: Implicit Bias and the Law*, 58 UCLA L. REV. 465 (2010); Jerry Kang et al., *Implicit Bias in the Courtroom*, 59 UCLA L. REV. 1124 (2012) (exploring implicit bias in both criminal procedure and civil litigation, especially employment discrimination). For a review, *see* Smith et al., *supra* note 6, at 877 (“[Providing] a thorough overview of the science of implicit racial bias and a comprehensive review of the scholarship that seeks to explain how implicit racial bias can operate at various points of discretion in the criminal justice system.”); Levinson & Young, *supra* note 27, at 311 (“[S]cholarship on implicit bias has emerged rapidly since the 1990’s, and has made quite a splash in legal discourse.”).

capital defense attorneys exhibit implicit racial biases,³⁶ as do prosecutors³⁷ and judges.³⁸

This is not just an academic exercise, however, as now “courts throughout the country have routinely admitted expert testimony about stereotyping and implicit bias in cases alleging employment discrimination.”³⁹ There have also been several prominent studies showcasing disparate racial treatment in hiring practices when all other variables are held constant and when the race of an applicant is not explicitly identified.⁴⁰ Some legal scholars have advocated for greater acknowledgment of implicit bias in the legal standards in discrimination law, while others have suggested the introduction of implicit bias research and the Implicit Association Test in courtrooms.⁴¹

Implicit racial bias has been theorized to affect juror decisionmaking in a variety of potentially harmful ways.⁴² To date, however, empirical examination of how implicit biases actually affect legal outcomes has

36. Theodore Eisenberg & Sheri Lynn Johnson, *Implicit Racial Attitudes of Death Penalty Lawyers*, 53 DEPAUL L. REV. 1539, 1539 (2004).

37. See generally Robert J. Smith & Justin D. Levinson, *The Impact of Implicit Racial Bias on the Exercise of Prosecutorial Discretion*, 35 SEATTLE U. L. REV. 795 (2012) (discussing racial bias in prosecutors).

38. Rachlinski et al., *supra* note 8, at 1221 (“[W]hen judges are aware of a need to monitor their own responses for the influence of implicit racial biases, and are motivated to suppress that bias, they appear able to do so.”).

39. See, e.g., *Karlo v. Pittsburgh Glass Works, LLC*, 880 F. Supp. 2d 629 (W.D. Pa. 2012); Ivan E. Bodensteiner, *The Implications of Psychological Research Related to Unconscious Discrimination and Implicit Bias in Proving Intentional Discrimination*, 73 MO. L. REV. 83 (2008); David L. Faigman et al., *A Matter of Fit: The Law of Discrimination and the Science of Implicit Bias*, 59 HASTINGS L.J. 1389 (2008); Linda Hamilton Krieger & Susan T. Fiske, *Behavioral Realism in Employment Discrimination Law: Implicit Bias and Disparate Treatment*, 94 CALIF. L. REV. 997 (2006).

40. Erik J. Girvan, *On Using the Psychological Science of Implicit Bias to Advance Anti-Discrimination Law*, 26 GEO. MASON U. C.R. L.J. 1, 1 n.2, 2 n.3 (citing Devah Pager et al., *Discrimination in a Low-Wage Labor Market: A Field Experiment*, 74 AM. SOC. REV. 777 (2009); Marianne Bertrand & Sendhil Mullainathan, *Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination*, 94 AM. ECON. REV. 991 (2004)). Girvan also references antidiscrimination research related to rates of stops and fruitful risks in New York City by race and disparities between the rates of white and black students suspended for one or more days. *Id.* at 3–6.

41. See, e.g., Tanya Katerí Hernández, *One Path for “Post-Racial” Employment Discrimination Cases—The Implicit Association Test Research as Social Framework Evidence*, 32 LAW & INEQ. 309, 312 (2014) (arguing “1) that social framework evidence be more broadly introduced into employment discrimination cases beyond the current practice of bringing forth expert witness testimony to explain the social psychology of stereotyping when stereotyped perspectives are concretely manifested in the workplace, and 2) that specific details about the insights drawn from the implicit association testing research be included[,]” both for the purpose of “elucidat[ing] the operation of discrimination in the absence of overt articulations of stereotyping”).

42. Smith et al., *supra* note 6, at 883–84 (“This section discusses the ways in which implicit racial bias can seep into how the jury makes its decisions. It includes, for example, (1) whether the defendant is afforded the presumption of innocence and if the jurors hold the prosecution to its burden to prove each element of the offense beyond a reasonable doubt; (2) how jurors assess the probative value of ambiguous evidence; and (3) how jurors evaluate the credibility of a self-defense claim.”).

been sparse.⁴³ Those studies that have been carried out have come in large part from innovative empirical work by law professor Justin Levinson and colleagues.⁴⁴ In one study, Levinson conducted an experiment in which subjects read a fact pattern depicting a fight.⁴⁵ Subjects were randomly assigned to a fact pattern with a Caucasian, Native Hawaiian, or African-American protagonist.⁴⁶ Levinson later asked each subject to recall facts about the scenario, and he found that subjects were more likely to remember the black protagonist's aggression.⁴⁷

Empirical researchers are typically careful not to overstate claims about how implicit bias operates.⁴⁸ But some who cite this work have at times described implicit bias in sweeping terms. Consider these observations, which come from judges, lawyers, and legal academics alike:

- “It is clear that implicit bias is pervasive, and that it affects the most important functions of jurors: evaluation of witnesses and evidence, evaluation of behavior, recall of facts, and judgment of guilt.”⁴⁹
- “Implicit bias weaves its way through the legal system in interactions between attorneys, clients, jurors, and judges. These biases penetrate the courthouse walls like sunlight through a high window, and affect decisions in different domains, especially where heavy discretion is involved, . . . [including] jurors in deliberating”⁵⁰
- “[I]mplicit biases alter the stories that jurors construct and individuals tend to rely on their biases when confronting situations of divergent facts.”⁵¹
- “[I]mplicit associations can color the real-world behavior of judges and jurors, prosecutors and police, commutation boards, and defense counsel as they make countless decisions across the spectrum of discretionary points in the criminal justice system.”⁵²

43. Levinson & Young, *supra* note 27, at 319 (noting that such studies have been “rare”).

44. See, e.g., Justin D. Levinson et al., *Guilty by Implicit Racial Bias: The Guilty/Not Guilty Implicit Association Test*, 8 OHIO ST. J. CRIM. L. 187, 190 (2010); Levinson & Young, *supra* note 27, at 309–10; Levinson, *supra* note 22; Justin D. Levinson, *Suppressing the Expression of Community Values in Juries: How “Legal Priming” Systematically Alters the Way People Think*, 73 U. CIN. L. REV. 1059 (2005).

45. Levinson, *supra* note 22, at 391–93.

46. *Id.* at 394.

47. *Id.* at 398–99; see also Hutchinson, *supra* note 33, at 27 (suggesting that implicit bias may help explain “why racism persists in a society with legal and cultural norms that mandate racial egalitarianism.”).

48. E.g., Ellsworth & Sommers, *supra* note 14, at 1004 (“Although some legal scholars and judges may credit the evidence of social science research when describing the prevalence of racial bias or the type of cases where it is most likely to intrude, social scientists themselves are far more hesitant.”).

49. Anna Roberts, *(Re)forming the Jury: Detection and Disinfection of Implicit Juror Bias*, 44 CONN. L. REV. 827, 829–30 (2012).

50. Michael B. Hyman, *Implicit Bias in the Courts*, 102 ILL. B.J. 40, 42 (2014).

51. Jessica L. West, *12 Racist Men: Post-Verdict Evidence of Juror Bias*, 27 HARV. J. ON RACIAL & ETHNIC JUST. 165, 186 (2011).

52. Smith et al., *supra* note 6, at 881.

In addition to scholarship on the topic, the federal government is now mandating implicit bias training as part of some of its consent decrees with local law enforcement related to criminal justice practices.⁵³

With regard to juror decisionmaking, most scholarship in implicit bias would likely agree that “[t]he potential for bias extends to jurors, who may approach legal proceedings with biases or prejudices that impact their perceptions and their decision-making in evaluating the participants in those proceedings.”⁵⁴ It has been suggested that “the effect of racism may be profound in those cases that turn on *mens rea* questions.”⁵⁵ This is because the “default assumption is juror unexceptionalism—given that implicit biases generally influence decisionmaking, there is no reason to presume that citizens become immune to the effects of these biases when they serve in the role of jurors.”⁵⁶

In short, the implicit bias literature suggests that we should expect race biases to play a role when jurors assess *mens rea*. But whether or not this prediction holds requires empirical testing, which is discussed in the next Part.

II. STUDY DESIGN

Scholars recognize that systematically testing the psychological processes associated with race and jury decisionmaking is difficult. This is why, as one review observed, we are still unsure of “the precise psychological processes through which the influence of race occurs in the legal context.”⁵⁷ This Part describes the new study, which combines methods from two previous types of experiments. Subpart A describes the first set of studies (on name manipulation), Subpart B describes the second set of studies (on *mens rea*), and Subpart C describes how the two methods were combined to study minority *mens rea*.

A. EMILY, GREG, LAKISHA, AND JAMAL

In 2004, economists Marianne Bertrand and Sendhil Mullainathan published an influential article titled *Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor*

53. Joe Davidson, *Implicit Bias Training Seeks to Counter Hidden Prejudice in Law Enforcement*, WASH. POST (Aug. 16, 2016), <https://www.washingtonpost.com/news/powerpost/wp/2016/08/16/implicit-bias-training-seeks-to-counter-hidden-prejudice-in-law-enforcement/>.

54. Debra Lyn Bassett, *Deconstruct and Superstruct: Examining Bias Across the Legal System*, 46 U.C. DAVIS L. REV. 1563, 1564 (2013).

55. Donna Coker, *Foreword: Addressing the Real World of Racial Injustice in the Criminal Justice System*, 93 J. CRIM. L. & CRIMINOLOGY (SUP. CT. REV. ISSUE) 827, 876–77 (2003).

56. Kang et al., *supra* note 35, at 1144.

57. Sommers, *supra* note 14, at 172.

*Market Discrimination?*⁵⁸ In that study, the authors sent out thousands of identical resumes to employers, and randomly assigned to the resumes different names—some more commonly given to white children (Todd, Neil, Greg, Matthew, Allison, Emily, Sarah), others more commonly given to black children (Tyrone, Leroy, Jamal, Tamika, Latoya, Lakisha).⁵⁹ They then tracked employer response, finding that resumes with white-sounding names received significantly more callbacks than identical resumes with black-sounding names.⁶⁰ The study is now often cited in employment discrimination litigation related to unconscious bias.⁶¹

The experimental design introduced by Bertrand and Mullainathan—manipulating the suggested race of names—has been used in a variety of subsequent studies.⁶² For instance, psychologists ran an experiment in which they had subjects read resumes with different names on top.⁶³ They found strong evidence of occupational stereotyping by race.⁶⁴ In a different study, management professors found that the uniqueness and ethnicity of names had an effect on hiring in a mock employer experiment.⁶⁵ Another group of business school professors manipulated the names on job applications for sales jobs, finding that applicants with white-sounding names were more favorably evaluated.⁶⁶ In a different context, psychologists changed the name of a professor on a curriculum vitae (“CV”), and asked students to evaluate the quality of the CV.⁶⁷ The research found that—even with everything else equal on the CV—black professors were found to be less competent than their white and Asian counterparts.⁶⁸ In another study, researchers found that

58. Bertrand & Mullainathan, *supra* note 40. The study has been cited in legal scholarship, for example, see R. Richard Banks, *Class and Culture: The Indeterminacy of Nondiscrimination*, 5 STAN. J. C.R. & C.L. 1, 9–11 (2009). Research of this type has been criticized. See, e.g., Dianna L. Stone et al., *Methodological Problems Associated with Research on Unfair Discrimination Against Racial Minorities*, 18 HUM. RESOURCE MGMT. REV. 243 (2008).

59. Bertrand & Mullainathan, *supra* note 40, at 1008.

60. *Id.*

61. See *supra* Part I.

62. See, e.g., Sarah Singletary Walker et al., *Effects of Leader Race and Leader Mistake on Patronizing Behaviors*, 13 J. BUS. DIVERSITY 52 (2013); Adrian G. Carpusor & William E. Loges, *Rental Discrimination and Ethnicity in Names*, 36 J. APPLIED SOC. PSYCHOL. 934 (2006).

63. Eden B. King et al., *What's in a Name? A Multiracial Investigation of the Role of Occupational Stereotypes in Selection Decisions*, 36 J. APPLIED SOC. PSYCHOL. 1145 (2006).

64. *Id.* at 1154 (“[S]trong effects of occupational stereotyping across racial groups emerged that accounted for discrimination toward Black and Hispanic individuals in selection decisions.”).

65. John L. Cotton et al., *The “Name Game”: Affective and Hiring Reactions to First Names*, 23 J. MANAGERIAL PSYCHOL. 18 (2008).

66. Stevie Watson et al., *The Effect of Name on Pre-Interview Impressions and Occupational Stereotypes: The Case of Black Sales Job Applicants*, 41 J. APPLIED SOC. PSYCHOL. 2405, 2406 (2011).

67. Anish Bavishi et al., *The Effect of Professor Ethnicity and Gender on Student Evaluations: Judged Before Met*, 3 J. DIVERSITY HIGHER EDUC. 245, 246 (2010).

68. *Id.*

manipulating just one word—describing an offender as black instead of white—led to significantly different outcomes in sentences given to juveniles.⁶⁹

The experimental manipulation of names has also been used in the implicit bias literature. For instance, the centerpiece of implicit bias research is a research tool called the Implicit Association Test (“IAT”).⁷⁰ The IAT examines, among other things, reaction time of subjects when they see white versus black stimuli. While one version of the IAT uses faces as the stimuli, another version of the test employs different names.⁷¹ Some research on the IAT even suggests that manipulating words (as compared to pictures) produces *stronger* effects.⁷²

The success of this simple name manipulation paradigm presents an opportunity for designing a juror decisionmaking study. To capitalize on this opportunity, I paired the Bertrand and Mullainathan approach with an empirical strategy (discussed next) that I designed with colleagues to study mens rea assessments.

B. STUDYING MENTAL STATE ATTRIBUTIONS

Mens rea, Latin for “guilty mind,” is a central feature of criminal law.⁷³ Modern criminal codes recognize that for most crimes, a defendant should not be found guilty unless he has committed a particular act with a sufficiently bad mental state.⁷⁴ In the American criminal justice system, we thus demand that jurors become mind readers, as they use the facts in evidence to determine the defendant’s mental state at the time of the alleged offense.

Despite its centrality to criminal law, little empirical work has examined race bias specifically in the context of mens rea evaluations.

69. Aneeta Rattan et al., *Race and the Fragility of the Legal Distinction Between Juveniles and Adults*, PLoS ONE (2012), <http://web.stanford.edu/~eberhard/downloads/20120523-RaceAndTheFragility.pdf>.

70. Anthony G. Greenwald et al., *Measuring Individual Differences in Implicit Cognition: The Implicit Association Test*, 74 J. PERSONALITY & SOC. PSYCHOL. 1464, 1464 (1998).

71. E.g., Anthony G. Greenwald, et al., *Understanding and Using the Implicit Association Test: I. An Improved Scoring Algorithm*, 85 J. PERSONALITY & SOC. PSYCHOL. 197, 199 (2003) (noting that “African American and European American first names” were included amongst the IAT measures made available to researchers).

72. Franziska Meissner & Klaus Rothermund, *A Thousand Words Are Worth More Than a Picture? The Effects of Stimulus Modality on the Implicit Association Test*, 6 SOC. PSYCHOL. & PERSONALITY SCI. 740, 740 (2015) (“Although the superiority of pictures regarding emotional experience holds for many everyday situations, several studies measuring individual attitudes with the Implicit Association Test seem to suggest that pictures activate *weaker* evaluative associations than words.” (internal citations omitted)).

73. See, e.g., Dannye Holley, *Mens Rea Evaluations by the United States Supreme Court: It Does Not Have the Tools and Only Occasionally Displays the Talent—A Sixty-Year Report Card—1950–2009*, 35 OKLA. CITY U. L. REV. 401 (2010) (critiquing many of the Supreme Court’s mens rea analyses).

74. The Model Penal Code was designed so that “each element, rather than merely each offense, carry a mental state.” PAUL H. ROBINSON & MARKUS DIRKS DUBBER, AN INTRODUCTION TO THE MODEL PENAL CODE 12 (2010), <https://www.law.upenn.edu/fac/phrobins/intromodpencode.pdf>.

This is in large part because up until a few years ago, there was almost no empirical research on mental state decoding generally.⁷⁵ However, starting in 2011, my colleagues and I began a series of publications that have experimentally examined how people and their brains behave when making mental state determinations.⁷⁶ Our studies have explored how jury eligible subjects assess mental state provisions as defined by the Model Penal Code (“MPC”). The MPC, developed by the American Law Institute in the mid-twentieth century, has been highly influential in shaping the definition of mens rea terminology in state criminal codes and in judicial opinions.⁷⁷ Thirty-four states have now adopted, in whole or in part, the MPC approach to mental states.⁷⁸ That approach is to split culpable mental states into four categories: (1) purposeful, (2) knowing, (3) reckless, and (4) negligent.⁷⁹

Beginning with the 2011 study, we set out to examine how Americans, when presented with actors in various mental states, actually sort between these four mens rea categories. The basic experimental design, which is discussed in more detail in the next Part, involved asking subjects to read short vignettes about a protagonist named John. Subjects were randomly assigned to a vignette in which John acted with one of five mental states (purposeful, knowing, reckless, negligent, or blameless).⁸⁰ They were then asked to determine what mental state John was in when

75. Francis X. Shen et al., *Sorting Guilty Minds*, 86 N.Y.U. L. REV. 1306, 1318 (2011) (“Whether jurors are capable of consistently and appropriately distinguishing between the MPC’s categories of mental states is an empirical question that legal scholarship has generally ignored.”); Justin D. Levinson, *Mentally Misguided: How State of Mind Inquiries Ignore Psychological Reality and Overlook Cultural Differences*, 49 HOWARD L.J. 1, 3 (2005) (“Scholars have not yet fully . . . empirically examined the psychological mechanisms involved in understanding others’ minds in the legal setting.”). For a handful of studies that have explored this issue, see generally Pam A. Mueller et al., *When Does Knowledge Become Intent? Perceiving the Minds of Wrongdoers*, 9 J. EMPIRICAL LEGAL STUD. 859 (2012); Laurence J. Severance et al., *Inferring the Criminal Mind: Toward a Bridge Between Legal Doctrine and Psychological Understanding*, 20 J. CRIM. JUST. 107 (1992); PAUL H. ROBINSON & JOHN M. DARLEY, *JUSTICE, LIABILITY, AND BLAME: COMMUNITY VIEWS AND THE CRIMINAL LAW* (1995); Levinson, *supra*.

76. Matthew R. Ginther et al., *The Language of Mens Rea*, 67 VAND. L. REV. 1327 (2014) [hereinafter Ginther et al., *The Language of Mens Rea*]; Matthew R. Ginther et al., *Parsing the Behavioral and Brain Mechanisms of Third-Party Punishment*, 36 J. NEUROSCIENCE 9420 (2016) [hereinafter Ginther et al., *Third-Party Punishment*].

77. Paul H. Robinson & Markus D. Dubber, *The American Model Penal Code: A Brief Overview*, 10 NEW CRIM. L. REV. 319 (2007); Paul H. Robinson & Jane A. Grall, *Element Analysis in Defining Criminal Liability: The Model Penal Code and Beyond*, 35 STAN. L. REV. 681, 691–703 (1983) (discussing MPC approach to elements analysis); Paul H. Robinson, *A Brief History of Distinctions in Criminal Culpability*, 31 HASTINGS L.J. 815, 823–25 (1980).

78. Ginther et al., *The Language of Mens Rea*, *supra* note 76, at 1331 (“The vast bulk of the states—thirty-four of them—either have adopted or have been heavily influenced by the Model Penal Code . . .”).

79. MODEL PENAL CODE § 2.02 (AM. LAW INST. 1985).

80. The Model Penal Code designates only the four categories of purposeful, knowing, reckless, and negligent action. I also use a “blameless” mental state to encompass any action that is performed without one of these four culpable mental states.

he committed the act. The mental states were defined as presented in TABLE I.⁸¹

TABLE I. MENTAL STATE DEFINITIONS USED IN EXPERIMENTS
<p>A crime is committed when the defendant has committed a voluntary act prohibited by law accompanied by a culpable mental state. Voluntary act means an act performed consciously as a result of effort or determination. Culpable mental state means either purposefully, knowingly, recklessly, or negligently, as explained in this instruction. Proof of the commission of the act alone is not sufficient to prove that the defendant had the required culpable mental state. The culpable mental state is as much an element of the crime as the act itself.</p> <ol style="list-style-type: none"> 1. Purposefully: A person acts “purposefully” with respect to a result when his conscious objective is to cause the specific result. 2. Knowingly: A person acts “knowingly” with respect to a result when he is aware that his conduct is practically certain to cause the result. 3. Recklessly: A person acts “recklessly” with respect to a result when he is aware of a substantial risk that his conduct will cause the result. 4. Negligently: A person acts “negligently” with respect to a result when, through a gross deviation from the standard of care that a reasonable person would exercise, he fails to perceive a substantial risk that his conduct will cause the result. 5. Blamelessly: A person acts “blamelessly” when he does not have any of the culpable mental states defined above.

To illustrate, consider two subjects. Subject A in our previous studies might have been assigned to evaluate this vignette featuring a protagonist named John behaving “recklessly”:

John and Mark are doing some repair work on a back porch. Wanting to get to the corner of the porch where his tools are, John gives Mark a push, realizing that there is some risk that this push will also send Mark off the porch and injure him. Mark falls off the porch, hits the grass, and suffers minor injuries requiring a two-day hospital stay and a \$600 doctor’s bill.

Subject B in our previous studies might have been assigned to this alternate version of the same vignette, now featuring a protagonist named John behaving “negligently”:

81. The language used in the experiments varies slightly from the actual verbatim language of the Model Penal Code. This reflects our findings that for ease of communication, alternative phrasing more accurately communicates the intentions of the MPC drafters. Ginther et al., *The Language of Mens Rea*, *supra* note 76, at 1331.

John and Mark are doing some repair work on a back porch. After John and Mark finish their day of repair work on the porch, John is in a hurry to leave the work site and get home, and while hurrying he bumps into Mark, causing Mark to lose his balance. Mark falls off the porch, hits the grass, and suffers minor injuries requiring a two-day hospital stay and a \$600 doctor's bill.

Comparing the two vignettes, we see that the first and third sentences of each vignette are identical. The only difference is the second sentence, which communicates John's mental state. In the first vignette, subjects should see that John is reckless because he acted while "realizing that there is some risk that this push will also send Mark off the porch and injure him." In the second vignette, subjects should see that John is negligent because he was not aware of the risk (because he was hurrying), even though he should have been. We constructed similar fact patterns for the other mental states, and we enhanced the design by utilizing thirty different fact patterns and varying the harm level as well. In a follow-up study, we further improved the wording of the fact patterns and definitions of mental states.⁸²

Even with attempts to make the language and vignettes as clear as possible, the results from both our 2011 and 2014 studies arrived at a clear conclusion: Jury eligible subjects in the United States can accurately sort purposeful and blameless action, but they have greater difficulty in sorting the mental states of knowledge, recklessness, and negligence.⁸³ The implications of those findings for criminal law doctrine were discussed.⁸⁴

Missing from the discussion, however, and from the empirical work itself, was any consideration of how the race, sex, and age of the protagonist might affect the evaluation of that protagonist's mental state. Such omissions are problematic given, for instance, the wealth of research we have amassed about (mis)attribution of blame in certain contexts, such as rape cases.⁸⁵ They are also problematic because, in the real world of criminal trials, jurors (especially those in urban centers) are likely to be assessing the mind of a minority defendant. In legal

82. *Id.*

83. Shen et al., *supra* note 75, at 1341–42 (“[S]ubjects can identify, with a high degree of accuracy, purposeful and blameless scenarios. Subjects correctly identified purposeful scenarios 78% of the time, and correctly identified blameless scenarios 88% of the time. Subjects were most prone to error in the middle categories of knowing (50% success rate), reckless (40% success rate), and negligent (48% success rate).”); Ginther et al., *The Language of Mens Rea*, *supra* note 76, at 1359 (“Our results suggest that changing language can improve sorting, but they also suggest that those improvements are limited. Even in our best case, only 59% of subjects are accurately identifying R scenarios.”).

84. Shen et al., *supra* note 75, at 1341–42.

85. Francis X. Shen, *How We Still Fail Rape Victims: Reflecting on Responsibility and Legal Reform*, 22 COLUM. J. GENDER & L. 1, 6 (2011) (“[A]n entire ‘rape myth’ literature, consisting of hundreds of scholarly works, has uncovered myths about many aspects of blame attribution but has been unable to loosen their grip on us.”).

scholarship, it has been suggested that because mental state attributions are so prevalent, “automatic in-group favoritism in attributions would be particularly concerning in the criminal justice process.”⁸⁶

How would our findings differ if subjects thought the protagonist in the scenario they evaluated was black? Would black defendants be systematically assigned more culpable mental states? Some have hypothesized that the answers to these questions would be yes.⁸⁷ Indeed, our work suggested an avenue by which such increased culpability could be introduced. We consistently found that subjects struggled to sort accurately between knowledge and recklessness. Given this difficulty, if the scenario could plausibly be considered knowledge *or* recklessness, subjects’ racial biases might push them more toward knowledge for minority defendants. This possibility motivated the new study.

C. CREATING A HYBRID DESIGN

The previous Parts described economics and psychology experiments in which experimenters manipulated names and our previous legal experiments where mental states were manipulated. In this Subpart I describe a hybrid experimental design combining the two methods.

The central question in the present experiment was, all else being equal, will changing the name of the protagonist in the fact pattern from John/Emily to Jamal/Lakisha affect the level of culpability a juror assigns? By modifying sex as well as race, I was also able to explore whether the Jamal-vs-John relationship was different from the Lakisha-vs-Emily relationship.

To gain additional leverage on this central question, I also considered whether the evaluation of minority mens rea interacts with age. Specifically, are there differences in the Jamal/John and Lakisha/Emily comparisons if we change the age of the protagonist in the fact pattern from eighteen to twenty-four, to forty-eight, to sixty-eight? To explore these questions, I proceeded as follows.

First, I revisited the original themes and scenarios utilized in the Shen et al. study.⁸⁸ For clarification, I use the term “theme” to refer to the general fact pattern (such as pushing someone off a roof), and I use the term “scenario” to refer to one of the five scenarios within that fact pattern (with each scenario corresponding to a mental state). We developed thirty different fact patterns, and with five mental states within each fact pattern, this led to a total of 150 scenarios for each experiment. Because previous research has pointed to the interaction of

86. Smith et al., *supra* note 6, at 902–03.

87. *Id.* at 885 (arguing that race will play a role as jurors attempt to “identify gradations of culpability”).

88. *See generally* Shen et al., *supra* note 75.

harm level with mental state determinations, harm level was varied across the scenarios.⁸⁹

Second, I manipulated the name and the age of the protagonist. Four names were used: John, Jamal, Emily, and Lakisha. These names were chosen because they signal a particular race of the protagonist. Appendix A describes a pre-test experiment, which confirms that indeed subjects who read about Jamal were much more likely to view him as black than subjects who read about John.⁹⁰ Four ages were also used to represent a range of ages: eighteen, twenty-four, forty-eight, and sixty-eight.⁹¹

Subjects read thirty scenarios, and in each scenario the same name and same age was used. That is, if subjects were reading about Jamal age twenty-four, they read about Jamal age twenty-four for all thirty scenarios, and never read about Jamal age eighteen or John or anyone else. In sum, then, there were 2400 unique scenarios: five mental states \times thirty fact patterns \times four names \times four ages.

Every mental state variant of a general fact pattern (“theme”) shared the same first and third sentence. The first sentence always served as an introductory sentence (“John is gardening in his backyard, where there are many plants and many small rocks.”) and the third sentence always presented the resulting harm (“The rock hits the window, but since his neighbor’s window is made of especially tough glass, the rock bounces off and causes no harm.”). The second sentence was modified in each variant in order to introduce the scenario-specific mental state for a given theme (“Wanting to get rid of a small rock, he throws the rock over the fence, aware that there is a substantial risk that the rock will also hit his neighbor’s nearby window, but choosing to ignore it.”).

The second sentence always included the mental state “signaling language,” which is presented in TABLE 2. The signaling language was rotated to avoid subjects simply looking for a particular code word.⁹² FIGURE 1 graphically presents how each scenario was constructed.

89. I varied harm level as was done in Shen et al., *supra* note 75 and Ginther et al., *The Language of Mens Rea*, *supra* note 76. An independent sample of subjects were utilized to obtain harm ratings for each fact pattern.

90. In addition, the statistical analysis controlled for perceived race.

91. In this study, I did not use minor (under age eighteen) protagonists because juvenile codes are somewhat different from adult codes, as is the process of adjudication. Exploring mental state attribution in even earlier ages would be a fruitful direction for further additional research.

92. All scenarios were constructed so that they would have roughly the same total number of words. Scenario length was seventy-three words, plus or minus two words. We also rotated signaling language, five for each mental state, so that subjects did not become habituated to a particular wording of a given mental state. Such habituation would have turned the task into a simple reading and memory exercise. For discussion of this approach, see Ginther et al., *The Language of Mens Rea*, *supra* note 76, at 1335–36.

Sorting Task: After each scenario, subjects were shown the menu of definitions of the five mental states, and asked to select the mental state that best matched that of the protagonist in the scenario they just read. This design allowed me to compare sorting patterns across names, in order to answer the research questions and learn whether subjects do their mind reading—meaning determine the mental state—of Jamal, Lakisha, and Emily differently than their mind reading of John.

To sum up: There were sixteen separate experiments, one for each name-age combination. In each experiment, subjects read thirty scenarios, one from each theme, and totaling six from each of the five mental states.⁹³ Subjects were provided with the definitions of the mental states alongside each scenario, and were then instructed after each one to “select from the question options below the definition that best matches John’s mental state in this scenario.”

FIGURE 2 presents graphically how a subject might be presented with the thirty scenarios, one each from every theme, and six a piece from each of the five mental states. APPENDIX B online provides the full text of the scenarios used.

93. Subjects also were given five practice scenarios, one from each mental state and also spanning the approximate range of harms, before the actual experiment, in order to familiarize them with the interface and the experimental task. These practice themes were developed in addition to the thirty themes used in the actual experiment.

FIGURE I. ILLUSTRATION: VARYING MENTAL STATES
WITHIN A SINGLE THEME

1) Start with sentence #1 (held constant)

Every year Emily holds a fourth of July party at her home where she invites her friends and family to enjoy her food and her fireworks.

2) Add sentence #2 (randomly selected from 1 of 5 options):

Purposeful

Emily aims a firework so that it will explode right next to Ryan's head, with the desire of injuring him in retaliation for a previous dispute between them.

Knowing

Emily aims a firework so that it will explode right next to Ryan's head in order to scare him, practically certain that Ryan will be injured as a result.

Reckless

Emily aims a firework so that it will explode right by Ryan's head in order to scare him, realizing there is some risk that Ryan might be injured.

Negligent

Emily aims a firework so that it will explode right by Ryan's head in order to scare him, overlooking the real chance that Ryan would be injured.

Blameless

Despite being as careful as she could when setting off the firework, a sudden gust of wind results in Emily accidentally setting the firework off right in Ryan's direction.

3) Finish with sentence #3 (held constant)

The firework Emily set off explodes next to Ryan's head, bursting his eardrum and making him unable to hear in that ear for several months.

TABLE 2. LANGUAGE USED TO SIGNAL JOHN'S
MENTAL STATE IN SCENARIOS

Note: For each of the five mental state categories, we systematically rotated between five different signaling phrases, in order to prevent subjects from identifying a mental state purely on the phrase employed.

(1) Purposefully

- a. Decides to
- b. Intends [to/that/of]
- c. Desires [to/that]
- d. Wants to
- e. Chooses to

(2) Knowingly

- a. Practically certain that [the harm will occur]
- b. Aware that [the harm] will almost certainly occur
- c. Almost positive that [the harm will occur]
- d. Virtually certain that [the harm will occur]
- e. Understands that [the harm] is almost guaranteed to occur

(3) Recklessly

- a. Aware there is a substantial risk that [the harm will occur]
- b. Realizes there is some risk that [the harm will occur]
- c. Conscious of the real risk that [the harm will occur]
- d. Understands that [the harm could easily happen]
- e. Recognizing there is a good chance that [the harm will occur]

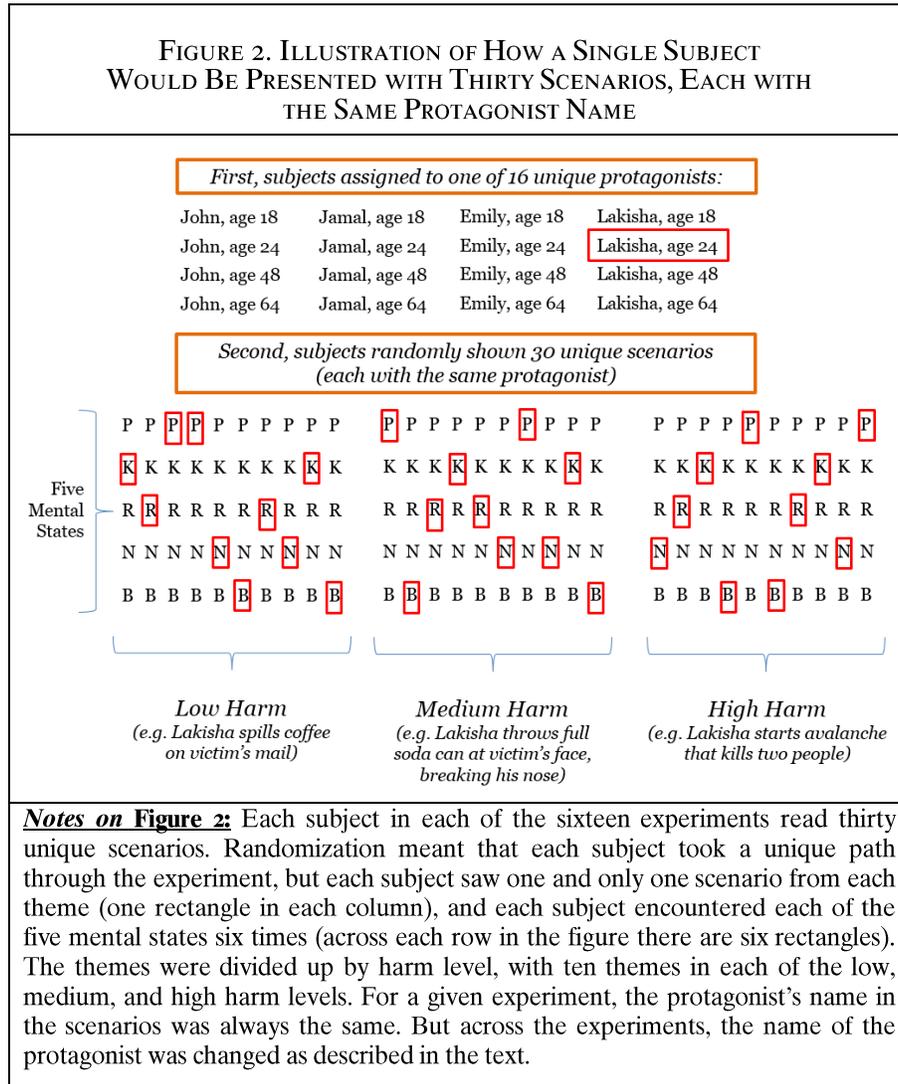
(4) Negligently

- a. Carelessly
- b. Wasn't paying attention
- c. Hurriedly [and] not seeing
- d. Without even noticing
- e. Overlooks

(5) Blamelessly

- a. Despite being as careful as he could, accidentally [causes harm]
- b. [Act is involuntary]
- c. Unavoidably [causes harm]
- d. Through an honest mistake [causes harm]
- e. Inadvertently [causes harm] despite his best efforts

FIGURE 2. ILLUSTRATION OF HOW A SINGLE SUBJECT WOULD BE PRESENTED WITH THIRTY SCENARIOS, EACH WITH THE SAME PROTAGONIST NAME



III. RESULTS

This Part reports on the results of the experiments described in Part II. Subpart A describes the online platforms used for the experiments and the subjects who participated. Subpart B then presents the results. APPENDIX A provides additional statistical details and discussion of the data.

A. STUDY PARTICIPANTS

The experiments were conducted online utilizing a web-based platform called Qualtrics.⁹⁴ Qualtrics has established itself as a trusted host for experimental studies, including empirical legal studies.⁹⁵ Online subjects were recruited to the Qualtrics-hosted experiment via modest payments at market rates made available through Amazon Mechanical Turk's payment service.⁹⁶ Separate samples were recruited for each experiment. No personally identifying information was collected. Studies assessing the quality of Turk subjects have found them to be engaged by the online experimental stimuli, and to be significantly more representative than the convenience samples that would otherwise be used.⁹⁷ As discussed in more detail in APPENDIX A, filtering questions were used to ensure that subjects were actively participating throughout the course of the experiment.

In total, 1256 subjects, approximately eighty for each of the unique protagonist name-age combinations, completed the research tasks. APPENDIX A provides the number of subjects for each experiment. All subjects recruited self-reported as United States citizens, age eighteen to sixty-five. While not truly a nationally representative sample, the subjects who participated in the experiments came from nearly all fifty states, Washington D.C., American Samoa, Puerto Rico, and the U.S. Virgin Islands. APPENDIX A provides the sample demographics.

94. The experiments were conducted from July 2013 through June 2014. The University of Minnesota Institutional Review Board Human Subjects Committee determined that the study was exempt from review under federal guidelines 45 C.F.R. Part 46.101(b) category #2 (on file with Author, Study Number: 1211E24181).

95. Research combining Amazon Mechanical Turk and Qualtrics is now routine in the social sciences. See, e.g., Dino P. Christenson & David M. Glick, *Crowdsourcing Panel Studies and Real-Time Experiments in MTurk*, 20 POL. METHODOLOGIST 27 (2013). Research using Qualtrics-based experiments has been published and presented in a number of academic fields, suggesting that it meets scholarly expectations for quality online, web-based experiments. For recent legal studies relying on Qualtrics experiments, see generally Ginther et al., *The Language of Mens Rea*, supra note 76; Elizabeth Ingriselli, *Mitigating Jurors' Racial Biases: The Effects of Content and Timing of Jury Instructions*, 124 YALE L.J. 1690 (2015); Jeff Sovern et al., "Whimsy Little Contracts" with Unexpected Consequences: An Empirical Analysis of Consumer Understanding of Arbitration Agreements, 75 MD. L. REV. 1 (2015).

96. No personally identifying information was collected aside from a thirteen character ID number provided by the worker for the purposes of tracking survey completion, obtaining payment, and preventing the same individual from completing the same or related surveys.

97. See, e.g., Joseph K. Goodman et al., *Data Collection in a Flat World: The Strengths and Weaknesses of Mechanical Turk Samples*, 26 J. BEHAV. DECISION MAKING 213 (2013); Adam J. Berinsky et al., *Evaluating Online Labor Markets for Experimental Research: Amazon.com's Mechanical Turk*, 20 POL. ANALYSIS 351 (2012); Tara S. Behrend et al., *The Viability of Crowdsourcing for Survey Research*, 43 BEHAV. RES. 800 (2011); Michael Buhrmester et al., *Amazon's Mechanical Turk: A New Source of Inexpensive, yet High-Quality, Data?* 6 PERSP. ON PSYCHOL. SCI. 3 (2011); Jon Sprouse, *A Validation of Amazon Mechanical Turk for the Collection of Acceptability Judgments in Linguistic Theory*, 43 BEHAV. RES. 155 (2011).

B. SUMMARY OF RESULTS

Do scenario protagonists named Jamal and Lakisha receive more culpable mental state assessments than counterparts named John and Emily? The results suggest that the answer to this question is *no*. As measured using the experimental task just described, there is not a statistically significant relationship between the assignment of a more culpable mental state and the name of the scenario protagonist.⁹⁸ As compared to John, subjects are no more likely to choose a more culpable mental state for Jamal, Lakisha, or Emily. In short, in this experimental task the name of the protagonist does not significantly affect mental state attributions.

To understand this finding, we can start by looking first at the sorting patterns for each name. FIGURE 3 plots (on the y-axis) the average accuracy for each mental state category, and for each of the four names (aggregating across all four ages). As in the earlier studies,⁹⁹ subjects are able to identify purposeful and blameless action with high accuracy, about eighty percent. For knowing and negligent behavior, however, accuracy drops to sixty percent, and then drops further to fifty percent for recklessness.

Next, observe also in FIGURE 3 that the patterns for all four names are roughly the same. That is, subjects assign mental states to Jamal, Emily, and Lakisha in the same way they do to John. For all names, the overall pattern is that subjects perform much better when assessing purposeful and blameless action, and they do much more poorly in evaluating knowing, reckless, and negligent action. For instance, recklessness is judged accurately fifty-two percent for John, fifty-two percent for Jamal, fifty-one percent for Emily, and fifty-three percent for Lakisha. This distribution suggests that on this mental state-decoding task, neither race nor sex generally affect culpability assessments.

To confirm, however, statistical analysis is required. The statistical analysis examined the factors that might explain whether subjects were more likely to choose a more culpable mental state when reading a scenario with Lakisha or Jamal. The outcome variable was defined as a dichotomous variable equaling “1” if the subject chose a mental state higher than the correct mental state and “0” otherwise. For instance, if the subject read a negligence scenario and chose recklessness, knowledge, or purposeful, this would be coded as “1.” If a subject read a negligence scenario and chose negligence or blameless, this would be

98. I define statistical significance as it is conventionally done, at the ninety-five percent confidence level, two-tailed. This is the conventional approach, though it is not without its critics. See Erin Leahey, *Alphas and Asterisks: The Development of Statistical Significance Testing Standards in Sociology*, 84 *Soc. Forces* 1 (2005).

99. For examples of earlier studies employing an experiment design similar to this study, see generally Shen et al., *supra* note 75; Ginther et al., *The Language of Mens Rea*, *supra* note 76.

coded as “0.” Because the outcome variable took a value of either 0 or 1, it was appropriate to employ a logistic regression model.¹⁰⁰ I ran two separate models. First, looking just at the male protagonists, I examined whether there is a statistically significant relationship between higher mental state attribution and the name Jamal. Then, looking just at the female protagonists, I carried out the same analysis for the name Lakisha.

The primary explanatory variable was a dichotomous variable indicating whether the name of the scenario protagonist was Jamal or John (and in the second model, whether the name of the protagonist was Lakisha or Emily).

The regression model also accounted for many additional explanatory variables:

- the given mental state of the scenario protagonist, for example, subjects might be less likely to choose a more culpable mental state for the defendant the more culpable the given mental state actually is;
- the age of the protagonist (which varied between eighteen, twenty-four, forty-eight, and sixty-eight);
- the level of the harm described in the scenario (which varied between low, medium, and high harm);
- the subject’s own age (taking values from eighteen through sixty-five);
- the subject’s race (coded as white or nonwhite)
- whether the subject was male; and
- the subject’s education level (a self-reported six-point scale).

The model accounted for variation across themes by using theme fixed effects, and employed robust standard errors as well. TABLE 3 reports the regression coefficients for the two logistic regressions, one comparing John and Jamal, the other comparing Emily and Lakisha. As a reminder, this is a between-subjects experiment and the key part of the experimental design is that everything else about the scenarios is identical, except the protagonist’s name.

TABLE 3 presents “odds ratios,” which can be interpreted as the odds that Jamal is more likely to be attributed a more culpable mental state than John. An odds ratio of “1” means that the odds are 1:1, or in other words, that there is no difference. The odds ratios for both Jamal and Lakisha are not statistically significantly different from “1,” confirming that (as seen graphically) there was no systematic difference in how subjects assigned mental states to these different protagonists.

Although not the primary focus of the study, the statistical analysis also reveals other findings. Looking at the effect of age on mental state decoding, overall the same pattern emerges across the four age groups. There is no statistically significant relationship between age of the

100. J. SCOTT LONG & JEREMY FREESE, REGRESSION MODELS FOR CATEGORICAL DEPENDENT VARIABLES USING STATA 131 (2d ed. 2006).

protagonist and likelihood of a subject selecting a more culpable mental state.

Two features of the scenarios themselves were significant. First, as would be expected, the higher the given mental state in the scenario, the lower the odds that a subject chose a higher mental state than was assigned. That is, subjects who were reading about someone acting “knowingly” were less likely than subjects reading about someone acting “negligently” to choose a higher mental state. This makes sense, since for knowledge, there is only one higher mental state, and since knowledge already connotes a fairly high level of culpability.

The second feature of the scenarios that influenced mental state decoding was the harm level of the scenario. The greater the harm, the more likely the subjects erred on the more culpable side of mental state. This finding is consistent with findings by legal scholar Matthew Ginther and colleagues, who found a superadditive interaction between harm and mental state.¹⁰¹

Finally, several subject demographics were significant predictors in the model comparing Jamal/John (but not the Lakisha/Emily model). There was an inverse relationship between subject education level and likelihood of choosing a more culpable mental state. And there was a positive relationship between being male and being nonwhite in finding a more culpable mental state. There was not, however, a difference in how white and nonwhite subjects assigned mental states to Lakisha/Emily or Jamal/John.¹⁰²

101. Ginther et al., *Third-Party Punishment*, *supra* note 76, at 9425. There was a superadditive interaction between harm and mental state because the combined effect on punishment of higher harm and a more culpable mental state was greater than the sum of the individual effects of harm and mental state individually. In more common language, the total is greater than the sum of its parts. *Id.*

102. I examined whether white subjects behaved differently than nonwhite subjects when assessing the vignettes with nonwhite protagonists. In previous research, there is evidence that third-party punishment is affected by intergroup bias. See generally Daniel A. Yudkin et al., *Reflexive Intergroup Bias in Third-Party Punishment*, 145 J. EXPERIMENTAL PSYCHOL.: GEN. 1448 (2016); Charles Efferson et al., *The Coevolution of Cultural Groups and Ingroup Favoritism*, 321 SCI. 1844 (2008). Psychologist Jennifer Eberhardt and colleagues found in an experiment that the more stereotypically black a defendant, the more likely he is to be sentenced to death in cases involving white victims. Jennifer L. Eberhardt et al., Research Report, *Looking Deathworthy: Perceived Stereotypicality of Black Defendants Predicts Capital-Sentencing Outcomes*, 17 PSYCHOL. SCI. 383 (2006). Given such findings, it could have been the case in my data that white and nonwhite participants sorted the vignettes differently. This turned out not to be the case. I ran a split-sample, comparing white and nonwhite responses, and I found no statistically significant difference between sorting patterns for white as compared to nonwhite subjects.

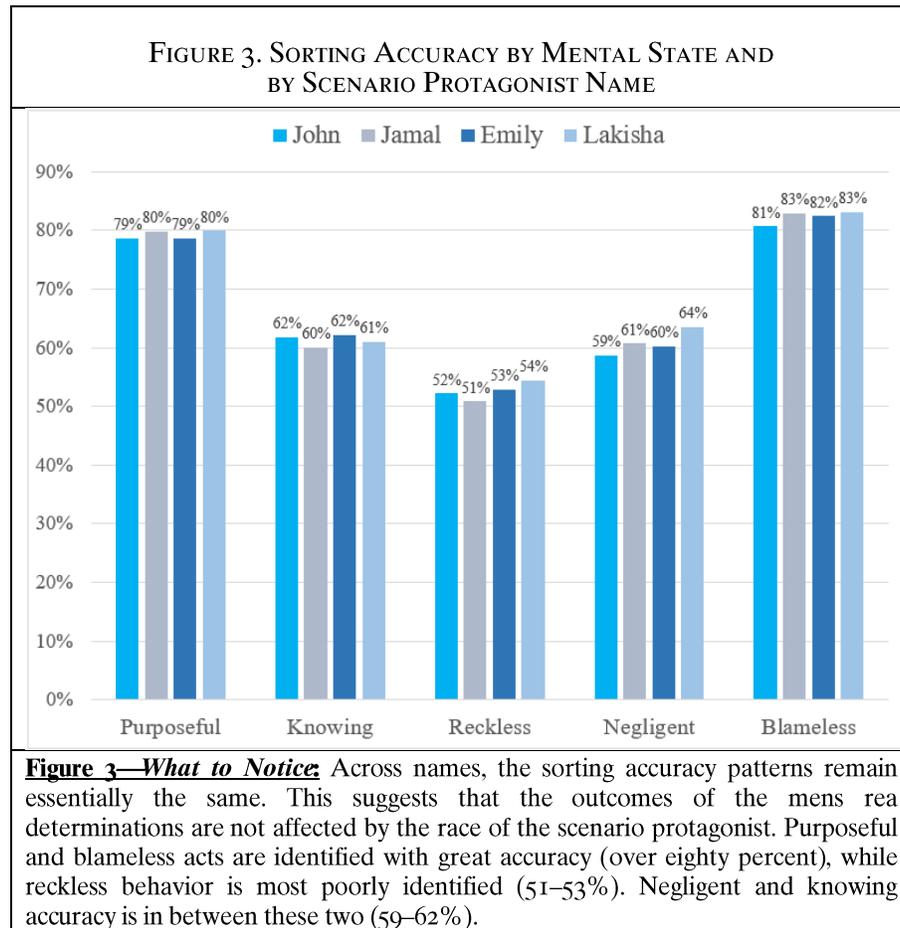


TABLE 3. STATISTICAL RELATIONSHIP BETWEEN PROTAGONIST NAME AND LIKELIHOOD OF SUBJECT CHOOSING A MORE CULPABLE MENTAL STATE, ODDS RATIOS FROM LOGISTIC REGRESSION AND STANDARD ERRORS REPORTED

	<i>Outcome variable: Was protagonist mental state judged more harshly than the correct mental state?</i>	
	John vs. Jamal	Emily vs. Lakisha
Jamal / Lakisha	0.950	1.001
	(0.0368)	(0.0389)
Protagonist Age 18	1.018	0.946
	(0.0558)	(0.0532)
Protagonist Age 24	1.041	0.992
	(0.0564)	(0.0549)
Protagonist Age 68	1.012	1.095
	(0.0558)	(0.0614)
Mental State	0.883**	0.872**
	(0.0133)	(0.0131)
Harm Level	1.325**	1.373**
	(0.0946)	(0.102)
Subject Age	0.998	0.997
	(0.00166)	(0.00170)
Subject Nonwhite	1.563**	0.948
	(0.0758)	(0.0486)
Subject Education	0.945**	0.977
	(0.0134)	(0.0142)
Subject Male	1.099*	0.990
	(0.0436)	(0.0400)
Constant	0.367**	0.302**
	(0.0708)	(0.0607)
Observations	15,096	15,048

Notes for Table 3: Statistical significance is denoted as * for $p < 0.05$ and ** for $p < 0.01$, two-tailed. TABLE 3 presents logistic regression results, explaining whether the subject chose a more culpable mental state than the given, correct mental state (1 = yes, more culpable; 0 = no). Each model includes theme fixed effects to control for theme-to-theme variation. The TABLE presents the odds ratio in the top row for each variable, with the standard error in parentheses just below. The number of observations is the number of scenarios sorted, not the number of subjects (as each individual subject read and sorted thirty scenarios). Because the purposeful mental state condition is excluded from the analysis, the reported N here is for the 629 subjects who read John or Jamal scenarios (629 subjects \times 24 scenarios = 15,096) and for the 627 subjects who read Emily or Lakisha scenarios (627 subjects \times 24 scenarios = 15,048). Column 1 presents results for those subjects who read the Jamal scenarios and those subjects who (separately) read the John scenarios. Column 2 presents the results for the Lakisha and Emily subjects.

IV. DISCUSSION

In this Part, I discuss the implications of the study's results. I start in Subpart A by acknowledging the many limits and cautions that must be heeded. I then explore in Subpart B a variety of possible explanations for the results, including how they might be explained by research on the neuroscience of implicit racial bias. I conclude in Subpart C with proposals for additional research.

A. LIMITS AND CAUTIONS

Before proceeding with the discussion of the results, it bears repeating that my study used one particular method (reading short vignettes), with one particular type of race manipulation (names), and one particular subject population (online subjects), to examine one particular aspect (mens rea determinations) of a complex and multistage criminal justice process. Given these limitations, I proceed with caution in thinking about what these results mean for legal practice.

An obvious limitation is that the online task that participants in my study completed is not the same as the types of decisions that jurors make in real courtrooms. Jurors in real cases consume hours or even days of evidence, while my participants read only a short paragraph vignette. Jurors in real cases are guided by two competing attorneys, as well as a judge, while my participants had no such guidance. Jurors in real cases deliberate with one another, while my participants made their decisions individually. Jurors in real cases see real people, not just names on paper, and those real people have a variety of physical features that may be salient. And, most fundamentally, jurors are *jurors* in a real legal proceeding. Law professor Justin Levinson has shown that when subjects are told to imagine themselves as jurors, they evaluate criminal mental states differently than those who are not told to imagine the same thing.¹⁰³

These and the many additional distinctions between the experimental conditions and the real world are, of course, the trade-off of experimental work.¹⁰⁴ Researchers gain much control over the experimental manipulation, but generalizing beyond the task at hand can be fraught with difficulty. In other contexts, researchers who have found implicit bias effects in the lab have cautioned that from those results alone “it is not clear how implicit racial bias influences judicial decisionmaking in

103. Levinson, *supra* note 44, at 1075 (“The legal prime had a significant effect on certain mental state attributions, such that legally primed participants judged actors’ mental states as more culpable than non-legally primed participants.”).

104. See Ellsworth & Sommers, *supra* note 14, 1002–03 (discussing the benefits and drawbacks of using mock jury experiments as compared to archival data and other methods).

court.”¹⁰⁵ In this Article, I must stress a similar point: Just because no race bias was found in my studies, it does not necessarily mean that no biases would exist in real-world mens rea determinations. Nevertheless, the experimental findings raise the real possibility that mens rea determinations may (under certain conditions) be possible to make free from racial bias.

B. EXPLAINING THE RESULTS: PSYCHOLOGY AND NEUROSCIENCE PERSPECTIVES

The results presented in this Article raise a vexing question: Given such stark racial disparities in the criminal justice system, much research suggesting that implicit racial bias is pervasive, and an experimental paradigm of name manipulation that in other studies has produced disparate results, how can it be that the experimental task employed in this study produced no significant effect?

A variety of possible, though necessarily speculative, answers present themselves. One possibility is that subjects were able to control their biases. Just as the judges in Jeff Rachlinski’s study were motivated to suppress their biases and were able to do so,¹⁰⁶ perhaps my subjects did the same. Although I offered no instruction related to bias, the context—a university research experiment, plus a protagonist name suggesting a particular race—may well have signaled to the subjects to be aware of (and check) their biases.

Psychologists are well aware of so-called “demand characteristics” of an experiment, in which subjects respond as they think the researcher wants them to.¹⁰⁷ In this case, subjects may have thought that the researcher wanted them not to be overly harsh on black protagonists. One data point supporting this interpretation is that subjects who self-reported perceiving Lakisha as black actually were significantly less likely to give her a more culpable mental state.¹⁰⁸ It could be that these subjects recognized their bias—and/or guessed at the researcher’s preferences—and rated accordingly.¹⁰⁹

105. Rachlinski et al., *supra* note 8, at 1226.

106. *Id.*

107. Austin Lee Nichols & Jon K. Maner, *The Good-Subject Effect: Investigating Participant Demand Characteristics*, 135 J. GEN. PSYCHOL. 151, 166 (2008); James Carlopio et al., *Avoiding Artifact in the Search for Bias: The Importance of Assessing Subjects’ Perceptions of the Experiment*, 44 J. PERSONALITY & SOC. PSYCHOL. 693 (1983); Martin T. Orne, *On the Social Psychology of the Psychological Experiment: With Particular Reference to Demand Characteristics and Their Implications*, 17 AM. PSYCHOL. 776, 779 (1962).

108. See discussion of the statistical results in APPENDIX A.

109. To further examine this possibility, I reexamined the data but focused only on the first scenario read. That is, if subjects became aware of the manipulation and adjusted accordingly as the session went on, we should see more of an effect in the first scenario. The analysis of just the first scenarios, however, produced substantively similar results as the analysis of the whole set.

Another possibility is that my expectations were mistaken. It could be that either by misreading the literature, or due to publication bias in not publishing null results, my results are not so much of an exception.¹¹⁰

Another, related possibility is that the effect of racial bias simply does not behave as conventional wisdom expects it to. Such was the case, argued Harvard economist Roland Fryer, for police shootings. Fryer's study of police behavior toward minorities concluded that there was not bias in police shootings (though there was bias in a variety of other types of contact such as using hands and pushing).¹¹¹ Fryer called this result the "most surprising result of [his] career," and criticism of the study ensued.¹¹² Perhaps it is possible that although many aspects of the criminal justice system are subject to race biases, *mens rea* determinations are not.

My limited dataset in this study does not allow for such a broad inference, but it does serve as a reminder that just because race often matters, it does not mean it necessarily imbues *every* decision that judges, jurors, and police officers make. When, and how, biases affect decisionmaking are empirical questions.

Probably the most compelling explanation of the null results is the nature of the experimental task the subjects completed. Specifically, the task might have served as a distraction task, focusing subjects on the cognitively intense task of determining mental states and thereby diverting their attention from the perceived race of the protagonist.¹¹³

Human cognitive architecture evolved through hunter-gatherer times to encode coalitional alliances.¹¹⁴ Recognizing, immediately, whether the person in front of you is "us" or "them" would provide significant survival benefit.¹¹⁵ In contemporary American society, race is often used as a marker by which coalitions are formed and maintained.¹¹⁶

110. I do not know how many non-published studies have found similar null results, so this remains speculation.

111. Roland G. Fryer, Jr., *An Empirical Analysis of Racial Differences in Police Use of Force* 35–36 (Nat'l Bureau of Econ. Research, Working Paper No. 22399, 2016), <http://www.nber.org/w22399>.

112. Quoc Trung Bui & Amanda Cox, *Surprising New Evidence Shows Bias in Police Use of Force but Not in Shootings*, N.Y. TIMES (July 11, 2016), https://www.nytimes.com/2016/07/12/upshot/surprising-new-evidence-shows-bias-in-police-use-of-force-but-not-in-shootings.html?_r=0. For one example of the criticism, see Michelle Phelps, *Yes, There Is Racial "Bias" in Police Shootings*, SCATTERPLOT (July 11, 2016), <https://scatter.wordpress.com/2016/07/11/yes-there-is-racial-bias-in-police-shootings/>.

113. Self-regulation of stereotypes and prejudices is a well-established research finding. Patricia G. Devine, *Stereotypes and Prejudice: Their Automatic and Controlled Components*, 56 J. PERSONALITY & SOC. PSYCHOL. 5 (1989). Thus, an alternative, not necessarily competing theory, is that subjects engaged in self-regulation. That is, subjects reading about a nonwhite protagonist deliberately controlled their response so as not to treat the minority protagonist differently.

114. Robert Kurzban et al., *Can Race Be Erased? Coalitional Computation and Social Categorization*, 98 PNAS 15387, 15387 (2001) ("Throughout our species' history, intergroup conflict depended on the categorization of the social world into *us* versus *them*.").

115. *Id.*

116. See generally Leda Cosmides et al., *Perceptions of Race*, 7 TRENDS COGNITIVE SCI. 173 (2003) (arguing that race encoding is not mandatory, and that coalition encoding can decrease race encoding).

The pervasiveness of race-based coalitions might make one think that race is *always* encoded. But psychology and neuroscience research challenges that view of automatic race encoding. As one review observed, “there is now considerable evidence that automatic intergroup reactions are readily influenced by a variety of contextual and psychological variables.”¹¹⁷

Notably, evolutionary psychologists Robert Kurzban, Leda Cosmides, and John Tooby have shown in experimental work that although age and sex are automatically encoded, race is not when coalitional factors are manipulated.¹¹⁸ For instance, when subjects are told to focus on jersey color, they pay much less attention to the race of the person wearing the jersey. This is consistent with our everyday experiences. At a sporting event, the first thing a sports fan is likely to notice about the person sitting next to her is whether that neighbor is wearing the colors of the home or opposing team. Skin color becomes relatively less important.

This basic idea—that when we focus on something else, we might become less attuned to race—finds some support in neuroscience research on the interaction of secondary distraction tasks and implicit bias.¹¹⁹ Neuroscience research on racial bias is still in its early stages, but already it is clear that prejudice and stereotyping “involve different interacting networks of neural structures.”¹²⁰ A key brain structure, though certainly not the only one involved, is the amygdala.¹²¹

The amygdala sits in the “subcortical” region (deep in the brain, under the cortex). It is “a dense collection of neurons nestled in the rostral tip of the temporal lobes.”¹²² This structure is heavily involved in emotional regulation, and it is hypothesized that part of its role in

117. Andrew R. Todd et al., *Perspective Taking Combats Automatic Expressions of Racial Bias*, 100 J. PERSONALITY & SOC. PSYCHOL. 1027, 1028 (2011).

118. Kurzban et al., *supra* note 114.

119. Conversely, however, some decisionmaking theories suggest that biases and heuristics are particularly valuable when we are faced with cognitive overload. Marianne Bertrand et al., *Implicit Discrimination*, 95 AM. ECON. REV. 94, 95 (2005) (“Time pressure and stress are two situational influences likely to first generate an acceleration of the mental process, and then an attempt to reduce the amount of information needing processing.”).

120. David M. Amodio, *The Neuroscience of Prejudice and Stereotyping*, 15 NATURE REV. NEUROSCIENCE 670, 670 (2014).

121. Damian Stanley et al., *The Neural Basis of Implicit Attitudes*, 17 CURRENT DIRECTIONS PSYCHOL. SCI. 164, 165 (2008) (“One significant contribution of neuroscience has been the identification of the amygdala as a brain region involved in the expression of implicit attitudes.”); Elizabeth A. Phelps et al., *Performance on Indirect Measures of Race Evaluation Predicts Amygdala Activation*, 12 J. COGNITIVE NEUROSCIENCE 729 (2000) (identifying amygdala activation as part of the network of race bias).

122. OWEN D. JONES ET AL., LAW AND NEUROSCIENCE 214 (2014).

implicit prejudice is to activate in response to an immediate or implied threat by outgroup members.¹²³

Of course, given the complexity and interconnectedness of the amygdala, to say that there is “great amygdala activation” with implicit bias begs for more precision. For instance, the amygdala “comprises several distinct nuclei that receive extensive afferent connections from neocortical areas in all four lobes of the brain, in addition to subcortical thalamic, hippocampal, and cingulate areas.”¹²⁴ To make things even more complicated, research suggests that many additional brain regions—such as the orbital frontal cortex (involved in evaluation and decisionmaking), the insula (involved in somatosensory states and emotions), the striatum (involved in learning and reward), and the medial frontal cortex (for processing social information)—may be implicated in the network of bias.¹²⁵

It is thus fair to say that we remain in the early stages of understanding the neural structure of implicit race bias. But even in these early stages, we are learning that brain activity looks different when subjects engage in a secondary task unrelated to race.¹²⁶ For instance, psychologists Mary Wheeler and Susan Fiske ran an experiment in which they manipulated the instructions given to their subjects in the brain scanner.¹²⁷ While in a functional Magnetic Resonance Imaging (“fMRI”) scanner, which uses blood flow as a proxy for measuring the activation of brain cells, subjects viewed images of black and white faces.¹²⁸ Subjects were given three different instructions during different parts of the task. For some faces, participants were told to categorize the face as male or female.¹²⁹ For some other faces, subjects were told to look at the faces to see if a dot was present.¹³⁰ Finally, for some faces, “participants were asked to think about the individual in the photo and decide whether he would like a

123. Amodio, *supra* note 120, at 671–72 (“[I]n white subjects viewing images of black faces, amygdala activation is greater in response to faces with darker rather than lighter skin tone; when the eyegaze of the target face is direct rather than averted; when judgments of faces are made on the basis of superficial information; and in contexts evoking interracial threat.” (internal footnotes omitted)).

124. Adam M. Chekroud et al., *A Review of Neuroimaging Studies of Race-Related Prejudice: Does Amygdala Response Reflect Threat?*, 8 *FRONTIERS HUM. NEUROSCIENCE* (2014), <http://dx.doi.org/10.3389/fnhum.2014.00179>.

125. Amodio, *supra* note 120. Moreover, the network for prejudice is distinct, but interrelated, from that on stereotypes.

126. *Id.* at 672 (“[S]tudies have found no differences in amygdala activity in response to different racial groups, presumably because the study designs focused subjects’ attention on task features other than race.”).

127. Mary E. Wheeler & Susan T. Fiske, Research Article, *Controlling Racial Prejudice: Social-Cognitive Goals Affect Amygdala and Stereotype Activation*, 16 *PSYCHOL. SCI.* 56, 57–59 (2005).

128. *Id.*

129. *Id.* at 58.

130. *Id.*

particular vegetable (indicated by the word presented immediately before the photo).”¹³¹

The study found that the instructions significantly affected response times and amygdala activation. While the male/female categorization task resulted in different amygdala activation for black as compared to white faces, this difference was not seen when subjects were given the alternative instructions. In those other conditions, subjects were not attending to the face of the photo because they were busy with the assigned task.¹³² Wheeler and Fiske concluded that “a stereotyped or prejudiced response to an out-group member requires, at minimum, that the stimulus (a photo in this case) be processed deeply enough that it represents a social target.”¹³³

Other studies have reached similar conclusions using different experimental paradigms. In a study quite germane to present considerations, psychologists Andrew Todd, Jennifer Richeson and colleagues examined how thinking about others’ mental states affected racial bias.¹³⁴ In the study, participants watched a video showing discriminatory acts committed by a white man against a black man. Some of the subjects were told to watch the video while remaining objective and detached. But other subjects were told to watch the video and to imagine what was going on inside the black man’s head. In psychology, this type of task is called a “perspective taking” task.¹³⁵ The researchers conducted three additional experiments, for a total of five, all evaluating whether perspective taking affected scores on the Implicit Association Test (“IAT”).¹³⁶ The results of the five experiments led to “converging evidence for the utility of perspective taking as a strategy for combating automatic expressions of racial bias and for facilitating more favorable interracial contact experiences.”¹³⁷

Studies such as these provide fertile ground with which to interpret the results in the experiment I have presented in this Article. In my task, participants had to focus—quite intently—on the factual details presented in the vignette. They did this thirty times in a row, and each time the name was the same, while the facts and circumstances were changing. Previous research has established that the cognitive task of

131. *Id.*

132. *Id.* at 59, 61–62.

133. *Id.* at 61.

134. See generally Todd et al., *supra* note 117.

135. *Id.* at 1029 (defining perspective taking “as the active contemplation of others’ psychological experiences”).

136. For instance, the researchers did a similar experiment in which subjects were asked to view a photograph of a black man, and then write a short essay about a day in his life. Again, some subjects were instructed to remain objective, while others were instructed to imagine the man’s feelings and thoughts throughout the day. *Id.*

137. *Id.*

decoding a mental state is difficult.¹³⁸ To handle such a demanding task, subjects may have started to ignore the name altogether in their effort to attend to the task they were instructed to complete. Moreover, the task involved getting inside the head of the fictional protagonist, perhaps further dampening down implicit race effects. In sum, it seems at least plausible that by directing subjects' cognitive focus to a difficult task, the race of the protagonist did not register in such a way as to activate systems of biased response.

This interpretation of my results finds support in the emerging neuroscience research base on the neural correlates of third-party punishment.¹³⁹ A collaborative team at Vanderbilt University including law professor Owen Jones, and neuroscientists René Marois, Joshua Buckholtz, and Matthew Ginther, has explored brain activity contemporaneous with the decision about whether, and how much, to punish.¹⁴⁰ The neural architecture facilitating third-party punishment likely involves interactive communication between many of the same structures identified as central to outgroup bias, for instance, the medial prefrontal cortex ("mPFC") and the amygdala.¹⁴¹ Evaluation of mental states also draws heavily on the dorsolateral prefrontal cortex ("DLPFC"), superior temporal sulcus, and temporoparietal junction.¹⁴²

Recent work by members of the same group has further explored the neural systems involved specifically in mens rea determinations.¹⁴³ Brain activity was measured in subjects as they read vignettes very similar to the ones I employed in my study. Rather than provide them with the full vignette at once, however, subjects were presented with one sentence at a time. This allowed the researchers to see how their brains worked (1) when they read about the harm caused; (2) when they read about the mental state; and (3) when they put the two together to arrive at a punishment decision. The study found that during this third stage, when subjects integrated the harm and mental state, amygdala activity

138. For examples of cognitive research demonstrating the difficulty of decoding mental state, see generally Shen et al., *supra* note 75; Ginther et al., *The Language of Mens Rea*, *supra* note 76.

139. For introductions to this literature written specifically for lawyers and legal thinkers, see generally MORRIS B. HOFFMAN, *THE PUNISHER'S BRAIN: THE EVOLUTION OF JUDGE AND JURY* (2014); Owen D. Jones et al., *Brain Imaging for Legal Thinkers: A Guide for the Perplexed*, 2009 STAN. TECH. L. REV. 5.

140. Joshua W. Buckholtz et al., *From Blame to Punishment: Disrupting Prefrontal Cortex Activity Reveals Norm Enforcement Mechanisms*, 87 NEURON 1 (2015); Joshua W. Buckholtz & René Marois, *Commentary, The Roots of Modern Justice: Cognitive and Neural Foundations of Social Norms and Their Enforcement*, 15 NATURE NEUROSCIENCE 655 (2012); Joshua W. Buckholtz et al., *The Neural Correlates of Third-Party Punishment*, 60 NEURON 930 (2008).

141. Buckholtz & Marois, *supra* note 140, at 658–59.

142. *Id.*

143. See generally Ginther et al., *Third-Party Punishment*, *supra* note 76 (discussing how brain mechanisms impact third-party punishment decisions).

increased (as compared to the other stages).¹⁴⁴ To the extent that the amygdala (and the network for mental state decoding of which it is a part) was recruited in my task, perhaps similar networks for race bias were less activated. In some contexts, the distracted brain may be a less racially biased brain.

C. THE NEED FOR MORE RESEARCH

Minority mens rea determinations are made in every criminal courtroom in America. Yet we know little about how those determinations are—or are not—affected by implicit race bias. Admittedly, studying the effect of implicit race bias on jury decisionmaking is difficult. As another researcher has recognized, “because of the incredible difficulties in research design, we do not have studies that evaluate implicit bias in real criminal trials.”¹⁴⁵ Since implicit bias is theorized to work unconsciously, it is hard to prove or disprove whether implicit bias contributed to a particular outcome.¹⁴⁶ These fundamental challenges make studying minority mens rea difficult. But it is not impossible. Below are several suggested avenues for possible further investigation.

First, we ought to explore ways for emerging research streams to communicate with one another. For instance, the literature on racial disparities has given little consideration to mens rea determinations.¹⁴⁷ It would be productive for interdisciplinary conversation to take place, aimed at integrating insights from each line of scholarship.

Second, and relatedly, neuroscience investigations of mental state decoding might engage more with neuroscience investigations on bias and decisionmaking. The new mantra in neuroscience is circuits, not centers.¹⁴⁸ As researchers look less to how discrete areas of the brain work in isolation, and more to how many areas of the brain work in

144. *Id.*

145. Kang et al., *supra* note 35, at 1146.

146. Bruce A. Green, *Legal Discourse and Racial Justice: The Urge to Cry “Bias!”*, 28 GEO. J. LEGAL ETHICS 177, 184–85 (2015) (“The extent to which implicit biases are likely to influence decisions in the criminal process is open to debate. That an implicit bias affected the result in any given case is inherently unprovable. And yet, virtually whenever one disapproves of a judge’s opinion, it is possible to surmise that unconscious biases and prejudices are at work, and if their role cannot be proved, it also cannot be disproved.”).

147. For instance, in Michelle Alexander’s widely cited book on race and the American criminal justice system, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness*, the term mens rea does not appear once. Alexander argues that in place of explicit racism in the era of Jim Crow, we now “use our criminal justice system to label people of color ‘criminals’ and then engage in all the practices we supposedly left behind.” ALEXANDER, *supra* note 13, at 2.

148. Cornelia I. Bargmann, Opinion, *How the New Neuroscience Will Advance Medicine*, 314 JAMA 221, 221 (2015) (“Modern neuroscience increasingly emphasizes a view of the brain as a set of information processing circuits or systems, not isolated neurons and regions.”).

concert with one another,¹⁴⁹ it seems natural that we would engage in discussion of how the implicit race bias circuits interact with the mental state decoding circuits.

Third, informed by these other bodies of knowledge, the experimental design employed here could be varied in a number of ways. For instance, the vignettes did not manipulate the race, sex, and age of the *victim*. Would that have made a difference? How might other names, in other contexts, play out? Would words such as “Mohammed” or “illegal immigrant” have been salient for some subjects? The race manipulation might also have been carried out visually. For instance, would using photos of the protagonists instead of words have changed the outcome? What if short videos were used to illustrate the vignettes instead of just the written words?

It might also be the case that minority mens rea determinations matter most in certain types of situations. For instance, when a white police officer shoots a black citizen, would we see the same pattern as in my vignettes? Would we see differences with sexual assault and kidnapping? Different types of offenses might activate different brain circuits.

Moving beyond the vignettes, we want to know how jurors would respond in a true mock jury setting, in which they sit and listen to testimony and then deliberate as a group about the mental state of the defendant. To complement the experimental work, researchers could also engage with real jurors after cases to better understand how they make their determinations. Also of use would be careful observations of attorneys in trial and pretrial settings, to see how they strategically invoke race.

An aim of these, and many other possible extensions to the research, is improved targeting of limited resources. Implicit racial bias is an appealing explanation for racial disparities in the criminal justice system, and it surely matters. But we need additional research to see more precisely how it does, and does not, affect juror decisionmaking.

Until the research base is solidified, we should be cautious about moving too fast toward juror “debiasing.” In areas such as employment discrimination, implicit bias research is already playing a (contested) role in litigation.¹⁵⁰ Given developments such as these, it is possible that we

149. Ed Bullmore & Olaf Sporns, *The Economy of Brain Network Organization*, 13 NATURE REV. NEUROSCIENCE 336, 340 (2012) (“The increasing availability of empirical data on brain networks... has triggered concerted efforts to create comprehensive connectivity maps (connectomes) for various organisms, including humans.” (internal footnotes omitted)).

150. Annika L. Jones, *Implicit Bias as Social-Framework Evidence in Employment Discrimination*, 165 U. PA. L. REV. 1221, 1227 (2017) (noting that “[p]rior to 2011, implicit-bias evidence was regularly used in employment discrimination claims.”); Franita Tolson, *The Boundaries of Litigating Unconscious Discrimination: Firm-Based Remedies in Response to a Hostile Judiciary*, 33 DEL. J. CORP.

will see more calls in the near future for implicit bias interventions to be introduced for jurors.

Identifying and addressing racial bias on juries has a rich and contested constitutional history.¹⁵¹ Historically, courts and legislatures attempted to ensure an adequate percentage of minorities on jury panels.¹⁵² At present, most litigants focus on voir dire and the Supreme Court's prohibitions on race-based peremptory challenges, laid out in its landmark 1986 case *Batson v. Kentucky*.¹⁵³

A *Batson* challenge is an objection to the validity of a peremptory challenge on the grounds that the opposing party excluded a given juror based on race (and this has since been expanded to include ethnicity and sex).¹⁵⁴ Given the research reviewed in Part I concerning the possible effects of racially imbalanced juries, this attention to jury composition is understandable and important.¹⁵⁵

Yet critics have argued that *Batson* fails to adequately account for implicit bias. Federal Judge Mark Bennett has argued that “judge-dominated voir dire and the *Batson* challenge process are well-intentioned methods of attempting to eradicate bias from the judicial process, but they actually perpetuate legal fictions that allow implicit bias to flourish.”¹⁵⁶ As a solution, Judge Bennett proposes expanding lawyers' role in the voir dire process and eliminating all peremptory challenges.¹⁵⁷

Other scholars have called for changes in juror selection and training to address implicit bias.¹⁵⁸ For example, law professor Cynthia Lee has argued that voir dire should involve making jurors aware of

L. 347, 421 (2008); Audrey J. Lee, *Unconscious Bias Theory in Employment Discrimination Litigation*, 40 HARV. C.R.-C.L. L. REV. 481, 483-86 (2005).

151. Nancy J. King, *Racial Jurymantering*: Cancer or Cure? A Contemporary Review of Affirmative Action in Jury Selection*, 68 N.Y.U. L. REV. 707, 711 (1993) (“The [Supreme] Court has been striking down attempts to exclude African-American citizens from juries for over a century”).

152. *Id.*

153. *Batson v. Kentucky*, 476 U.S. 79 (1986) (holding that prosecutor's use of peremptory challenges to exclude African-Americans violated defendant's right to equal protection).

154. *Id.* at 82. A *Batson* challenge has three parts. First, the objecting party must raise an inference that the peremptory challenge was race-based. Second, the burden of production then shifts to the party that excluded the juror to provide a race-neutral reason for exclusion. Third, if this burden is met, the judge must then decide whether the peremptory challenge was purposeful discrimination. *See Johnson v. California*, 545 U.S. 162, 162-63 (2005) (noting the “three steps *Batson* enumerated: (1) Once the defendant has made out a prima facie case and (2) the State has satisfied its burden to offer permissible race-neutral justifications for the strikes, then (3) the trial court must decide whether the defendant has proved purposeful racial discrimination[.]” (internal citations omitted)).

155. King, *supra* note 18, at 67.

156. Mark W. Bennett, *Unraveling the Gordian Knot of Implicit Bias in Jury Selection: The Problems of Judge-Dominated Voir Dire, the Failed Promise of Batson, and Proposed Solutions*, 4 HARV. L. & POL'Y REV. 149, 150 (2010) (arguing for the elimination of peremptory challenges as a way to prevent lawyers from striking jurors due to stereotype and bias).

157. *Id.* at 166-67.

158. *See, e.g., Ingriselli, supra* note 95, at 1738 (“[E]xplicit race salience affected judgments, but only when egalitarian instructions were presented pre-evidence.”).

implicit bias.¹⁵⁹ Lee argues that by making potential jurors aware of their biases through race salience early on in the legal process, they may ultimately be more successful at considering the evidence of a case in an unbiased way.¹⁶⁰

The results of my study suggest that we should learn more about how bias operates in the courtroom before settling on the solution. Implicit race bias is sometimes portrayed as a part of the decisionmaking machinery that jurors can never turn off—unless they are instructed to do so. I am skeptical that this blanket approach is correct either as a descriptive or prescriptive matter. Descriptively, as I discussed earlier, there is a wealth of research suggesting that race becomes salient in decisionmaking *sometimes*, but not all the time. Thus, in the courtroom we would expect that race also matters *sometimes*, but not all the time. My findings are more consistent with psychological research finding that for judges “implicit biases *can* translate into biased decisionmaking under certain circumstances, but that *they do not do so consistently*.”¹⁶¹

Prescriptively, it seems too soon to proclaim that a particular type of juror debiasing intervention will work.¹⁶² Implicit bias research usefully informs debate and raises awareness about potentially problematic decisionmaking patterns. Future research involving novel debiasing techniques can be particularly useful. As this work is carried out, the hope is that we look more carefully at courtroom context. For instance, is the problem that jurors cannot be unbiased (without instructions), or that attorneys are—perhaps unconstitutionally—fueling biases that might otherwise not be activated?

159. Cynthia Lee, *A New Approach to Voir Dire on Racial Bias*, 5 U.C. IRVINE L. REV. 843, 867 (2015) (“Voir dire on the topic of racial bias offers another way to make jurors aware of the concept of implicit bias.”).

160. *Id.* Lee considers research suggesting that “calling attention to race is a bad idea as it may simply remind jurors of the association between Black and crime and encourage White jurors to act more punitively towards Black defendants[,]” but argues that the body of research “does not support such a conclusion.” *Id.* at 865–66. Lee does recognize that “[m]aking jurors aware of their own implicit biases while not triggering stereotype threat is likely to be a difficult balancing act, somewhat like walking on a very thin tight rope.” *Id.* at 872.

161. Rachlinski et al., *supra* note 8, at 1222 (emphasis added).

162. To be fair, those raising awareness about implicit bias in court recognize that additional research is required. Hyman, *supra* note 50, at 44 (“This is not to suggest that all disparities exist at the behest of implicit bias. Research is still underdeveloped in the area of implicit bias, specifically as it relates to the legal field.”). For instance, commenting on the police bias training mandated recently by the Department of Justice, implicit bias scholar Jerry Kang observed that, “[p]eople should not assume that there is anything like a silver bullet or a panacea that comes from training.” Christopher I. Haugh, *The U.S. Government Confronts Its Bias*, THE ATLANTIC (July 2, 2016), <https://www.theatlantic.com/politics/archive/2016/07/the-us-government-confronts-its-stereotypes/489470/>.

CONCLUSION

The American criminal justice system relies upon jurors to regularly decode the mental states of criminal defendants. Those determinations are often determinations of minority mens rea. This Article presented an empirical investigation of how jury eligible subjects engage in decoding minority mens rea. In online experiments of mental state attributions, I explored whether subjects treat John, Jamal, Emily, or Lakisha differently. My results show that assessments of minority mens rea are not biased by race. Do implicit racial biases exist? Yes. But do they affect *every* decision in the justice system? My results suggest the answer might be no. And if this is true, it demands that we further deconstruct implicit bias claims to better understand how, exactly, those biases lead (or do not lead) to unjust outcomes.

APPENDIX A: STATISTICAL DETAILS

This APPENDIX provides further statistical detail on the study, and additional tables of results for the analysis summarized in the main text.

Name Manipulation Check

As discussed in the main text, the inferences I draw about the effect of protagonist race on outcomes rests on the assumption that changing the name of the protagonist affected the perception of the protagonist defendant's race. To test this assumption, I ran a separate name manipulation check experiment, which is described in detail here.

195 subjects were recruited through the Amazon Mechanical Turk service to complete an experiment hosted on the Qualtrics platform. The survey was conducted on November 26–27, 2013. Subjects were paid fifty cents to complete the survey. Subjects were told that “the purpose of this study is to better understand how individuals evaluate harmful acts,” and that:

If you choose to participate in this study, you will be asked to read and evaluate a series of brief scenarios describing a harmful act. After each scenario, you will be asked to answer a single question. After these questions, you will be asked a series of background questions. These will include questions about your age, gender, race, income, and education.

Subjects were informed that their responses would be kept anonymous and confidential. After giving their informed consent to participate in the survey, subjects were randomly assigned to one of four groups:

- (1) The “John group” read scenarios only with John as the protagonist.
- (2) The “Jamal group” read scenarios only with Jamal as the protagonist.
- (3) The “Emily group” read scenarios only with Emily as the protagonist.
- (4) The “Lakisha group” read scenarios only with Lakisha as the protagonist.

Subjects read and evaluated thirty scenarios, as described in the main text. Then, at the end of the study, subjects were asked the following question.

In this study, you read about the actions of the fictional character “[protagonist name].”¹⁶³ Which of the following best describes the way in which you thought of [protagonist name’s] race?

I generally imagined that s/he¹⁶⁴ was White.

I generally imagined that s/he was Black.

I generally imagined that s/he was Latino.

I generally imagined that s/he was Asian.

I generally imagined that s/he was Native American.

I generally imagined that s/he was of multiple races at different times during the study.

I did not imagine that s/he was of any particular race.

The results, presented graphically in FIGURE A1, show clearly that the name manipulation has a large effect on subject perception of protagonist race. When the protagonist was named John, sixty-eight percent of subjects imagined him to be white, and no subjects imagined him to be black. Twenty-seven percent of subjects did not imagine any race. By contrast, when the protagonist was named Jamal, only two percent of subjects imagined him to be white, but forty-seven percent imagined him to be black and thirty-three percent imagined no race.

The patterns were similar for the female protagonists. For Emily, sixty-one percent imagined her as white, compared to just two percent black. Thirty-four percent did not imagine a race for Emily. For Lakisha, no subjects imagined her as white, but fifty-six percent imagined her as black. Thirty-seven percent did not imagine a race for Lakisha.

Statistical analysis confirms that (1) there is a statistically significant relationship between changing the protagonist from John to Jamal and imagining the protagonist to be black;¹⁶⁵ and that (2) there is a statistically significant relationship between changing the protagonist from Emily to Lakisha and imagining the protagonist to be black.¹⁶⁶

163. The protagonist’s name was either John, Jamal, Emily, or Lakisha, depending on which group the subject was in.

164. For Emily and Lakisha, this read “she.” For Jamal and John, this read “he.”

165. I modeled a logit regression with the outcome variable a dichotomous variable indicating whether or not the subject reported imagining that the protagonist was black, and the independent variable of interest a dichotomous variable indicating whether the protagonist’s name was Jamal. A post-estimation chi-squared test after the logit regression finds that inclusion in the Jamal treatment group made subjects significantly more likely to imagine the protagonist as black, $\chi^2(1, N=84) = 17.86, p < .001$.

166. I modeled a logit regression with the outcome variable a dichotomous variable indicating whether or not the subject reported imagining that the protagonist was black, and the independent variable of interest a dichotomous variable indicating whether the protagonist’s name was Lakisha. A post-estimation chi-squared test after the logit regression finds that inclusion in the Lakisha treatment group made subjects significantly more likely to imagine the protagonist as black, $\chi^2(1, N=84) = 13.75, p < .001$.

While this relationship is strong, it is important to note that across the four names, roughly a third of subjects reported that they did not imagine a race. The result is noteworthy since a bulk of scholarship suggests that “race and ethnicity are highly salient and chronically accessible categories.”¹⁶⁷ Two explanations seem possible. First, it seems plausible that the nature of the task—in which subjects read, fairly quickly, a scenario in which the actor’s name was not salient to the question that followed—may not have led subjects to imagine the race. Since the question after the scenario focused their attention on the mental state, subjects’ cognitive tasks may have been concerned with the related facts, drowning out mental imagery of the skin color of the protagonist. A second possibility, by contrast, is that subjects may have indeed imagined a race but decided not to report this because they thought it was socially desirable to remain race neutral.¹⁶⁸

The results suggest the importance of examining whether race salience helps to explain my results. I thus included in every experiment that I ran the same question about perception of race. At the end of the experiment, every subject self-reported whether and how he/she imagined the race of the scenario protagonist. I used this data to explore whether the subject’s perception of race affects his/her sorting accuracy.

In FIGURE A2, I graph the sorting accuracy, by mental state, for both Lakisha and Jamal. In this figure, however, I break out the subjects into those who self-reported that they perceived Lakisha and Jamal to be black, versus those who did not. The graphed data suggest that the overall sorting accuracy patterns remain the same, and further statistical analysis presented in TABLE A1 suggest that there is not a systematic, significant relationship between perceiving the protagonist as black and sorting patterns. In TABLE A1, I report on separate models for the Jamal and Lakisha subjects, and introduce a new variable “Perceived as Black,” to examine whether the perception of the protagonist as black affected the likelihood of selecting a more culpable mental state. For Jamal, I find no significant effect. But for Lakisha, I find a statistically significant inverse relationship: Subjects who coded Lakisha as black were *less* likely to assign her a higher mental state.

167. Jerry Kang & Kristin Lane, *Seeing Through Colorblindness: Implicit Bias and the Law*, 58 UCLA L. REV. 465, 469 n.6 (2010) (citing research suggesting that “[r]ace (and other social group memberships such as age and sex) appears to be encoded with no substantial effort on the perceiver’s part.”).

168. A large body of research has explored how subjects in experimental settings, as well as individuals in real social settings, may self-report attitudes that (they believe) are socially desirable, even if those attitudes do not reflect their true thoughts. *See, e.g.,* DOUGLAS P. CROWNE & DAVID MARLOWE, *THE APPROVAL MOTIVE: STUDIES IN EVALUATIVE DEPENDENCE* (1964).

FIGURE A1. SUBJECTS REPORT ON HOW THEY IMAGINED THE RACE OF THE SCENARIO PROTAGONIST

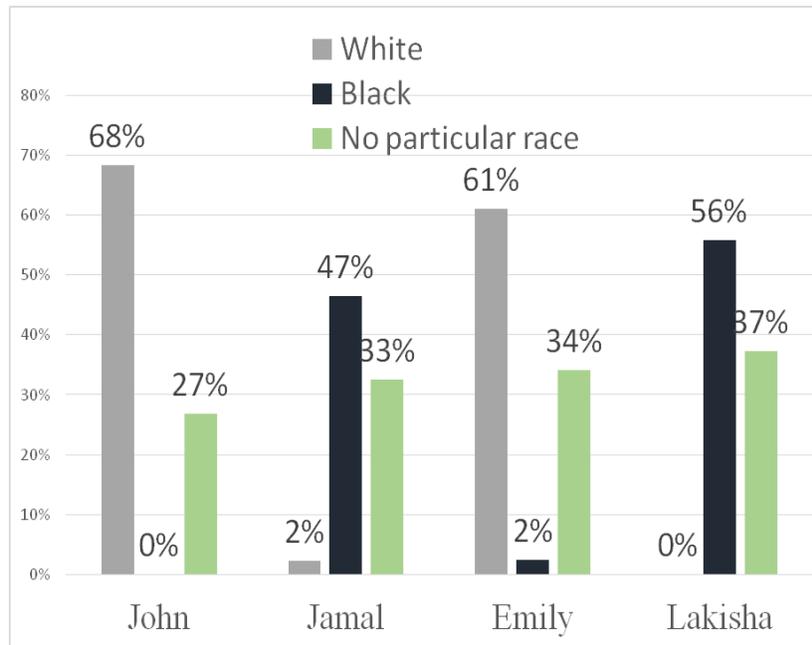


Figure A1—What to Notice: Subjects were much more likely to imagine that John and Emily were white, and that Jamal and Lakisha were black. There was also, however, a sizeable proportion of subjects who reported that they did not assign a race. I controlled for this variance in the statistical analyses.

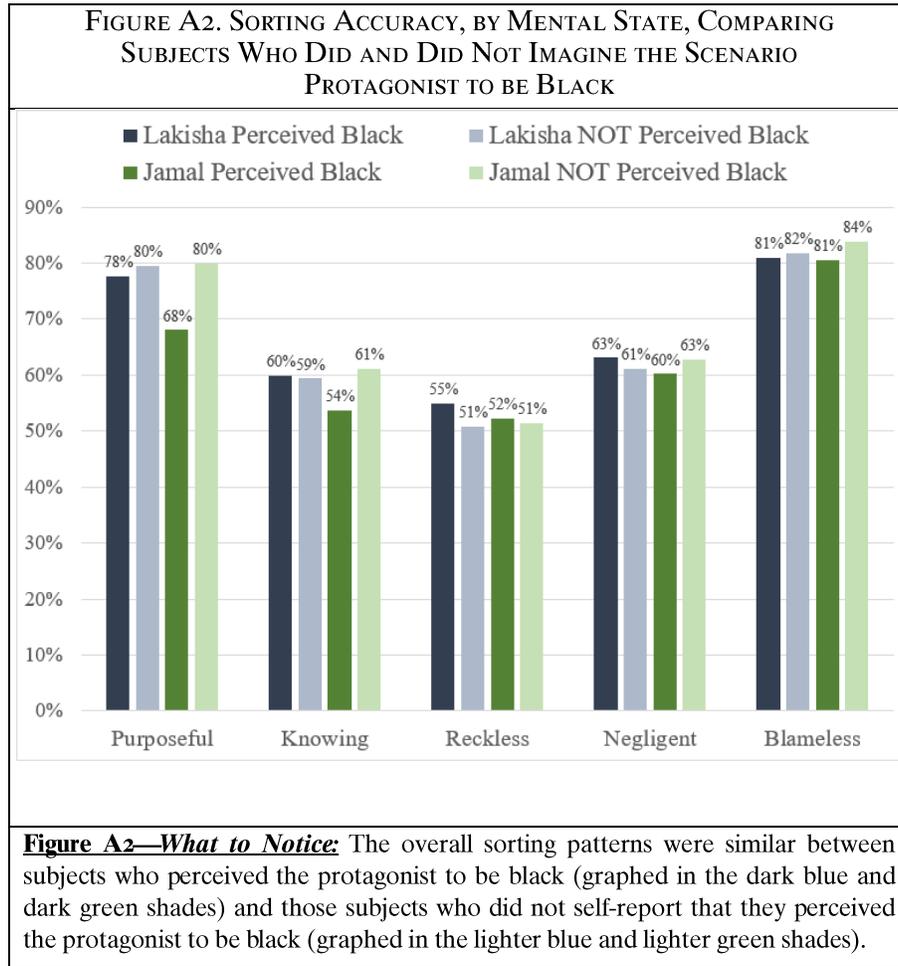


TABLE A1. EFFECT OF PERCEPTION OF PROTAGONIST ON LIKELIHOOD OF SUBJECT CHOOSING A MORE CULPABLE MENTAL STATE, ODDS RATIOS FROM LOGISTIC REGRESSION AND STANDARD ERRORS REPORTED

	Jamal	Lakisha
Perceived as Black	1.051	0.887*
	(0.0590)	(0.0490)
Protagonist Age 18	0.927	0.892
	(0.0746)	(0.0713)
Protagonist Age 24	1.079	0.964
	(0.0821)	(0.0743)
Protagonist Age 68	0.993	1.142
	(0.0775)	(0.0887)
Mental State	0.897**	0.871**
	(0.0193)	(0.0185)
Harm Level	1.259*	1.389**
	(0.127)	(0.144)
Subject Age	1.000	0.994*
	(0.00252)	(0.00236)
Subject Education	0.979	0.948**
	(0.0202)	(0.0195)
Subject Male	1.232**	1.046
	(0.0705)	(0.0598)
Subject Non-White	1.584**	0.932
	(0.110)	(0.0660)
Constant	0.289**	0.404**
	(0.0792)	(0.113)
Observations	7464	7656

Notes for Table A1: Statistical significance is denoted as * for $p < .05$ and ** for $p < .01$. The TABLE presents logistic regression results, explaining whether the subject chose a more culpable mental state than the given, correct mental state (1 = yes, more culpable; 0 = no). Each model includes theme fixed effects to control for theme-to-theme variation. The TABLE presents the odds ratio in the top row for each variable, with the standard error in parentheses just below. Column 1 presents results for those subjects who read the Jamal scenarios and Column 2 presents the results for the subjects who read the Lakisha scenarios.

Participants in the Study

As discussed in the main text, my study involved sixteen separate experiments with over 1200 subjects. Here I detail the number of subjects in each experiment, as well as the subject demographics. As seen in TABLE A3, there were approximately seventy-five to eighty subjects per study. As seen in TABLE A4, these subjects represented a wide range of demographic backgrounds, though the sample did skew in terms of being more educated, more female, and more white.

While not a truly nationally representative sample, the 1256 subjects who completed the experiments came from all fifty states and the District of Columbia. Taken as a whole, it can be said that while not nationally representative, the sample is surely more demographically diverse than traditional psychology experiments relying solely on college students.¹⁶⁹

Importantly, the number of subjects reported in these APPENDIX tables and in the main text are only those subjects who were determined to be actually engaging in the online task. Concerns about subjects' compliance with task instructions are of special concern with online experiments because subjects cannot be monitored while engaged in the experimental tasks. To address this issue, experimental psychologists have developed "attention filters" designed to ascertain whether subjects are in fact following instructions and paying attention to the material being presented to them online. In each of my experiments, I employed a modified version of the filter developed by psychologist Daniel Oppenheimer and his colleagues.¹⁷⁰

The design of the primary attention filter question was such that users would see, in large font, a headline reading "Background Questions on Sources for News" as well as another large, bold question: "From which of these sources have you received information in the past month?" A series of check-box options were provided (for example, local newspaper, local

169. I discuss this issue in Shen, et al., *supra* note 75. Over-reliance on undergraduates has generated the term "science of the sophomore" and led to longstanding debates over the validity of studies relying solely on students. For one critique, see Steven Levitt & John A. List, *What Do Laboratory Experiments Measuring Social Preferences Reveal About the Real World?* 21 J. ECON. PERSP. 153, 154 (2007) (suggesting that "great caution is required when attempting to generalize lab results out of sample."). For reviews of the literature, see generally Jerald Greenberg, *The College Sophomore as Guinea Pig: Setting the Record Straight*, 12 ACAD. MGMT. REV. 157 (1987); Marc Hooghe et al., *Why Can't a Student Be More Like an Average Person?: Sampling and Attrition Effects in Social Science Field and Laboratory Experiments*, 628 ANNALS AMER. ACAD. POL. & SOC. SCI. 85 (2010); Robert A. Peterson, *On the Use of College Students in Social Science Research: Insights from a Second-Order Meta-Analysis*, 28 J. CONSUMER RES. 450 (2001). The discussion stretches back over half a century. See, e.g., Maurice L. Farber, *The College Student as Laboratory Animal*, 7 AMER. PSYCHOL. 102 (1952).

170. See Daniel M. Oppenheimer et al., *Instructional Manipulation Checks: Detecting Satisficing to Increase Statistical Power*, 45 J. EXPERIMENTAL SOC. PSYCHOL. 867, 867-68 (2009) (describing a filter in which subjects must carefully read instructions which, counter to the boldface headline above the instructions, tell subjects not to actually click on an answer to the question).

TV news). Subjects reading carefully, however, were instructed not to check any of the boxes, but instead to type “987” into the text box provided. Across the experiments, seventy-six percent of subjects successfully answered the attention filter question. The results presented in this Article are based only on those subjects who were paying attention as assessed by this attention filter.

TABLE A3. NUMBER OF PARTICIPANTS IN EACH EXPERIMENT

Protagonist Name	Protagonist Age	# of Subjects in Experiment
John	18	84
John	24	80
John	48	78
John	64	76
Jamal	18	70
Jamal	24	81
Jamal	48	83
Jamal	64	77
Emily	18	81
Emily	24	81
Emily	48	70
Emily	64	76
Lakisha	18	79
Lakisha	24	88
Lakisha	48	74
Lakisha	64	78
Total		1256

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1055

TABLE A4. DEMOGRAPHICS OF EXPERIMENTAL SUBJECTS (N = 1256)

Education	Subjects	U.S. Census
Less than High School	0%	18%
High School/GED	9%	30%
Some College	31%	20%
Associates Degree	13%	7%
Bachelor's Degree	33%	17%
Graduate Degree	14%	10%

Income	Subjects	U.S. Census
< \$20,000	31%	\$1-\$24,999: 22%
\$20,000-\$40,000	30%	\$25,000-\$34,999: 19%
\$40,000-\$60,000	21%	\$35,000-\$49,999: 21%
\$60,000-\$80,000	9%	\$50,000-\$64,999: 14%
\$80,000-\$100,000	5%	\$65,000-\$74,999: 6%
> \$100,000	4%	\$75,000-\$99,999: 8%

Gender	Subjects	U.S. Census
Male	32%	49%
Female	68%	51%

Race	Subjects	U.S. Census
White	86%	74%
Nonwhite	14%	26%

APPENDIX B: FULL TEXT OF SCENARIOS¹⁷¹

Note: As described in the main text, the study consisted of sixteen related experiments. Each experiment had a protagonist with a unique name-age combination. This APPENDIX B presents the full text of the scenarios as they read for one of the sixteen combinations: Lakisha, Age 18. The other fifteen experiments are identical in wording, except for changes in the protagonist's name, age, and sometimes sex.

Sixteen experiments, with 150 scenarios each
(Scenarios for shaded cell are presented in this Appendix B)

John, Age 18	Jamal, Age 18	Emily, Age 18	Lakisha, Age 18
John, Age 24	Jamal, Age 24	Emily, Age 24	Lakisha, Age 24
John, Age 48	Jamal, Age 48	Emily, Age 48	Lakisha, Age 48
John, Age 64	Jamal, Age 64	Emily, Age 64	Lakisha, Age 64

Do not quote or cite without permission.

¹⁷¹. This APPENDIX is also available in the online version of this Article as well as at http://www.fxshen.com/Shen_2017_MinorityMensRea_AppendixB-ScenarioText.pdf (last visited June 4, 2017).

This document provides the full text of all 150 scenarios used in the Lakisha, Age 18 version of the experiment. On the left-hand side, I note the theme number (numbered one through thirty), and designate the mental state of the protagonist in the scenario (Purposeful, Knowing, Reckless, Negligent, or Blameless).

10 Low Harm Themes (Themes #1-10)

I - P: Lakisha is 18 years old. In Lakisha's apartment building, incoming mail is left on a table in piles for each tenant. Angry at her neighbor for playing loud rock and roll music very late at night for many nights in a row without asking Lakisha if it's okay, one day Lakisha decides to pour some of her coffee on this neighbor's pile of mail. The coffee hits the neighbor's mail, but it's all junk mail, completely worthless to the neighbor.

I - K: Lakisha is 18 years old. In Lakisha's apartment building, incoming mail is left on a table in piles for each tenant. One day Lakisha reaches out and grabs for her pile of mail with the same hand that she's holding her hot cup of black coffee in, almost positive that this will result in some of the coffee spilling on to her neighbor's mail. The coffee hits the neighbor's mail, but it's all junk mail, completely worthless to the neighbor.

I - R: Lakisha is 18 years old. In Lakisha's apartment building, incoming mail is left on a table in piles for each tenant. One day Lakisha reaches out and grabs for her pile of mail with the same hand that she's holding her hot cup of black coffee in, understanding that it could easily happen that some of the coffee will spill on to her neighbor's mail. The coffee hits the neighbor's mail, but it's all junk mail, completely worthless to the neighbor.

I - N: Lakisha is 18 years old. In Lakisha's apartment building, incoming mail is left on a table in piles for each tenant. One day Lakisha reaches out and grabs for her pile of mail with the same hand that she's holding her hot cup of black coffee in, overlooking the fact that some of the coffee will spill on to her neighbor's mail. The coffee hits the neighbor's mail, but it's all junk mail, completely worthless to the neighbor.

I - B: Lakisha is 18 years old. In Lakisha's apartment building, incoming mail is left on a table in piles for each tenant. Although Lakisha is using a special non-spill cup for her coffee and she is as careful as she can be, one day when Lakisha collects her mail, Lakisha's cup lid breaks and her black coffee accidentally spills out of her cup. The coffee hits the neighbor's mail, but it's all junk mail, completely worthless to the neighbor.

2 - P: Lakisha is 18 years old. Lakisha and Tony regularly play against each other in a recreational softball league. Angry with Tony after an argument they had and intending to hurt him, one softball game when Lakisha is up to bat and Tony is catching behind the plate, Lakisha swings and lets go of her bat in a way that will hit Tony. The softball bat bounces backwards and glances off Tony's arm, without doing any damage.

2 - K: Lakisha is 18 years old. Lakisha and Tony regularly play against each other in a recreational softball league. During one softball game when Lakisha is up at the plate and swings her bat and misses on a third strike, in disgust she drops the bat behind her without looking, virtually certain that it will hit Tony, who is catching. The softball bat bounces backwards and glances off Tony's arm, without doing any damage.

2 - R: Lakisha is 18 years old. Lakisha and Tony regularly play against each other in a recreational softball league. During one softball game when Lakisha is up at the plate and swings her bat and misses on a third strike, in disgust she drops the bat behind her without looking, conscious of the real risk that it will hit Tony, who is catching. The softball bat bounces backwards and glances off Tony's arm, without doing any damage.

2 - N: Lakisha is 18 years old. Lakisha and Tony regularly play against each other in a recreational softball league. During one softball game when Lakisha's team is playing against Tony's team, and Lakisha is up at the plate to bat and Tony is catching behind the plate, Lakisha swings her bat and misses on a third strike, and then carelessly drops the bat. The softball bat bounces backwards and glances off Tony's arm, without doing any damage.

2 - B: Lakisha is 18 years old. Lakisha and Tony regularly play against each other in a recreational softball league. During one softball game when Lakisha's team is playing against Tony's team, Lakisha is hit by a pitch and despite being as careful as she can to hold onto the softball bat, she accidentally drops her bat near Tony, who is catching behind the plate. The softball bat bounces backwards and glances off Tony's arm, without doing any damage.

3 - P: Lakisha is 18 years old. Lakisha is leading a camping trip and borrows a tent from her neighbor, Joe. Angry that Joe had been rude about lending Lakisha his camping gear, Lakisha chooses to ruin Joe's tent by dragging it behind her as she hikes back from the campsite. Jagged rocks scrape the tent and slash holes in it, so that by the time the trip is over, the tent is completely ruined and Joe has to replace it.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1059

3 - K: Lakisha is 18 years old. Lakisha is leading a camping trip and borrows a tent from her neighbor, Joe. Tired from a long weekend of camping, Lakisha drags the heavy tent behind her as she walks back from the campsite, virtually certain that this will ruin the tent. Jagged rocks scrape the tent and slash holes in it, so that by the time the trip is over, the tent is completely ruined and Joe has to replace it.

3 - R: Lakisha is 18 years old. Lakisha is leading a camping trip and borrows a tent from her neighbor, Joe. Tired from a long weekend of camping, Lakisha drags the heavy tent behind her as she walks back from the campsite, understanding that this could easily ruin the tent. Jagged rocks scrape the tent and slash holes in it, so that by the time the trip is over, the tent is completely ruined and Joe has to replace it.

3 - N: Lakisha is 18 years old. Lakisha is leading a camping trip and borrows a tent from her neighbor, Joe. Tired from a long weekend of camping, Lakisha drags the heavy tent behind her as she walks back from the campsite, without even noticing the risk that this will ruin the tent. Jagged rocks scrape the tent and slash holes in it, so that by the time the trip is over, the tent is completely ruined and Joe has to replace it.

3 - B: Lakisha is 18 years old. Lakisha is leading a camping trip and borrows a tent from her neighbor, Joe. While Lakisha is hiking, despite being as careful as she could, she slips on a patch of mud and accidentally lets go of the tent, causing it to roll down a hill. Jagged rocks scrape the tent and slash holes in it, so that by the time the trip is over, the tent is completely ruined and Joe has to replace it.

4 - P: Lakisha is 18 years old. Lakisha is attending a party at a friend's house, and she's playing darts. Because Lakisha had an argument with Frank earlier in the day, and is still angry at Frank during the party, Lakisha chooses to hit Frank with a dart, so she throws her dart as Frank walks in front of the dart board. The dart, which hits Frank on the shoulder, does not penetrate the clothing and therefore causes no injury.

4 - K: Lakisha is 18 years old. Lakisha is attending a party at a friend's house, and she's playing darts. Wanting to throw her darts in rhythm one after another, Lakisha throws her final dart at the dart board while Frank is walking toward it, understanding that it is almost guaranteed that by doing this the dart will hit Frank. The dart, which hits Frank on the shoulder, does not penetrate the clothing and therefore causes no injury.

4 - R: Lakisha is 18 years old. Lakisha is attending a party at a friend's house, and she's playing darts. Wanting to throw her darts in rhythm one after another, Lakisha throws her final dart at the dartboard while Frank is walking toward it, aware that there is a substantial risk that by doing this the dart will hit Frank. The dart, which hits Frank on the shoulder, does not penetrate the clothing and therefore causes no injury.

4 - N: Lakisha is 18 years old. Lakisha is attending a party at a friend's house, and she's playing darts. At one point during the party while everyone is hanging out in the basement area where the dart board and food and other games are located, Lakisha overlooks the fact that Frank is walking toward the dart board, and throws her dart. The dart, which hits Frank on the shoulder, does not penetrate the clothing and therefore causes no injury.

4 - B: Lakisha is 18 years old. Lakisha is attending a party at a friend's house, and she's playing darts. At one point while playing darts during the middle of the party, as Lakisha is in the motion of throwing her dart, Frank suddenly jumps in front of the dartboard and, although Lakisha tries to stop, she unavoidably throws the dart toward Frank. The dart, which hits Frank on the shoulder, does not penetrate the clothing and therefore causes no injury.

5 - P: Lakisha is 18 years old. Lakisha is attending a football game and is seated behind a row of fans. Angry at the fans who are in front of her because they keep standing up and blocking her view of the game, Lakisha chooses to hit one of them with her water bottle, and throws her full water bottle at the fans in front of her. The water bottle glances off one of the fellow fan's arms, without doing any damage.

5 - K: Lakisha is 18 years old. Lakisha is attending a football game and is seated behind a row of fans. Wanting to celebrate after her team scores a big touchdown, Lakisha throws her full water bottle up in the air, virtually certain that throwing the water bottle in this way will cause it to hit one of the fans in the row in front of her. The water bottle glances off one of the fellow fan's arms, without doing any damage.

5 - R: Lakisha is 18 years old. Lakisha is attending a football game and is seated behind a row of fans. Wanting to celebrate after her team scores a big touchdown, Lakisha throws her full water bottle in the air, conscious of the real risk that throwing the bottle in this way will cause it to hit one of the fans in the row in front of her. The water bottle glances off one of the fellow fan's arms, without doing any damage.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1061

5 - N: Lakisha is 18 years old. Lakisha is attending a football game and is seated behind a row of fans. Wanting to celebrate after her team scores a big touchdown, Lakisha throws her full water bottle in the air, not paying attention to the fact that throwing the bottle in this way will cause it to hit a fan in the row in front of her. The water bottle glances off one of the fellow fan's arms, without doing any damage.

5 - B: Lakisha is 18 years old. Lakisha is attending a football game and is seated behind a row of fans. After a touchdown, the fans behind Lakisha throw their hands in the air to celebrate and one fan hits Lakisha's arm, inadvertently causing Lakisha to lose her grip on her full water bottle, despite her best efforts to keep it from going into the air. The water bottle glances off one of the fellow fan's arms, without doing any damage.

6 - P: Lakisha is 18 years old. Lakisha is playing golf with her friends and is on the 9th hole waiting for the group in front to finish. In a bad mood because she's been playing poorly, Lakisha drives her ball onto the green while the group is still there because she desires to hit someone in the group. Lakisha's ball hits one of the golfers in the shoulder, giving him a substantial cut and bruise that takes weeks to heal.

6 - K: Lakisha is 18 years old. Lakisha is playing golf with her friends and is on the 9th hole waiting for the group in front to finish. Eager to show off her long drive, she drives her ball onto the green while another group is still there, virtually certain that it will hit one of the golfers in the group. Lakisha's ball hits one of the golfers in the shoulder, giving him a substantial cut and bruise that takes weeks to heal.

6 - R: Lakisha is 18 years old. Lakisha is playing golf with her friends and is on the 9th hole waiting for the group in front to finish. Eager to show off her long drive, she drives her ball onto the green while another group is still there, conscious of the real risk that it will hit one of the golfers in the group. Lakisha's ball hits one of the golfers in the shoulder, giving him a substantial cut and bruise that takes weeks to heal.

6 - N: Lakisha is 18 years old. Lakisha is playing golf with her friends and is on the 9th hole waiting for the group in front to finish. Eager to show off her long drive, she drives her ball onto the green while another group is still there, overlooking the real chance that it will hit one of the golfers in the group. Lakisha's ball hits one of the golfers in the shoulder, giving him a substantial cut and bruise that takes weeks to heal.

6 - B: Lakisha is 18 years old. Lakisha is playing golf with her friends and is on the 9th hole waiting for the group in front to finish. Lakisha waits for the group ahead of her to leave, but during her swing one of them heads back to the green, and she unavoidably drives the ball towards him. Lakisha's ball hits one of the golfers in the shoulder, giving him a substantial cut and bruise that takes weeks to heal.

7 - P: Lakisha is 18 years old. Lakisha is gardening in her backyard, where there are many plants and many small rocks. Hoping to get back at her next door neighbor because of an argument they had earlier in the week, Lakisha throws a rock over the fence because she desires it hit her neighbor's window. The rock hits the window, but since her neighbor's window is made of especially tough glass, the rock bounces off and causes no harm.

7 - K: Lakisha is 18 years old. Lakisha is gardening in her backyard, where there are many plants and many small rocks. Wanting to get rid of a rock that she finds while cleaning out the garden bed, she throws it over the fence, practically certain that the rock will also hit his neighbor's nearby window. The rock hits the window, but since her neighbor's window is made of especially tough glass, the rock bounces off and causes no harm.

7 - R: Lakisha is 18 years old. Lakisha is gardening in her backyard, where there are many plants and many small rocks. Wanting to get rid of a rock that she finds while cleaning out the garden bed, she throws the rock over the fence, aware that there is a substantial risk that the rock will also hit her neighbor's nearby window. The rock hits the window, but since her neighbor's window is made of especially tough glass, the rock bounces off and causes no harm.

7 - N: Lakisha is 18 years old. Lakisha is gardening in her backyard, where there are many plants and many small rocks. After finding a rock in the garden, she carelessly throws the rock over the fence, which happens to be very near the window of her neighbor who lives in the house next door. The rock hits the window, but since her neighbor's window is made of especially tough glass, the rock bounces off and causes no harm.

7 - B: Lakisha is 18 years old. Lakisha is gardening in her backyard, where there are many plants and many small rocks. She throws the small rocks in her trashcan but, when suddenly stung on the face by a bumblebee, she involuntarily releases one of the rocks in the direction of her neighbor's window. The rock hits the window, but since her neighbor's window is made of especially tough glass, the rock bounces off and causes no harm.

8 - P: Lakisha is 18 years old. One day, Lakisha is using her landlord Tim's laundry machine, which requires a special type of detergent. Lakisha is angry with Tim and wants to get revenge for raising the rent last year, so Lakisha decides to ruin Tim's laundry machine by not using the special detergent it requires. The regular detergent that Lakisha uses damages Tim's laundry machine by causing its filtering system to become clogged, costing Tim \$200 to have a factory specialist repair the damage.

8 - K: Lakisha is 18 years old. One day, Lakisha is using her landlord Tim's laundry machine, which requires a special type of detergent. Lakisha only has regular laundry detergent, not the special type that the laundry machine requires, so she uses it anyway, almost positive that this will damage the laundry machine. The regular detergent that Lakisha uses damages Tim's laundry machine by causing its filtering system to become clogged, costing Tim \$200 to have a factory specialist repair the damage.

8 - R: Lakisha is 18 years old. One day, Lakisha is using her landlord Tim's laundry machine, which requires a special type of detergent. Lakisha only has regular laundry detergent, not the special type that the laundry machine requires, so she uses it anyway, conscious of the real risk that this will damage the laundry machine. The regular detergent that Lakisha uses damages Tim's laundry machine by causing its filtering system to become clogged, costing Tim \$200 to have a factory specialist repair the damage.

8 - N: Lakisha is 18 years old. One day, Lakisha is using her landlord Tim's laundry machine, which requires a special type of detergent. Lakisha is in a rush and hurriedly uses her detergent from home, not seeing that this machine requires a special type of detergent and that using her detergent could damage the machine. The regular detergent that Lakisha uses damages Tim's laundry machine by causing its filtering system to become clogged, costing Tim \$200 to have a factory specialist repair the damage.

8 - B: Lakisha is 18 years old. One day, Lakisha is using her landlord Tim's laundry machine, which requires a special type of detergent. Tim doesn't tell Lakisha that the laundry machine requires special detergent, so Lakisha is unaware that the machine requires special detergent and inadvertently uses the wrong detergent despite her best efforts to follow the instructions. The regular detergent that Lakisha uses damages Tim's laundry machine by causing its filtering system to become clogged, costing Tim \$200 to have a factory specialist repair the damage.

9 - P: Lakisha is 18 years old. Lakisha usually rides her bicycle down a busy street on her way to work. Annoyed because the recent bike lane proposal failed, one day Lakisha rides her bike on the sidewalk and intends to hit a pedestrian. Lakisha strikes a pedestrian with her bike, but the pedestrian does not sustain any injuries.

9 - K: Lakisha is 18 years old. Lakisha usually rides her bicycle down a busy street on her way to work. One day while riding her bike to work, Lakisha wants to ride her bike on the sidewalk instead of in the road to avoid traffic, and she does so, understanding that riding in this way almost guarantees that she will hit a pedestrian. Lakisha strikes a pedestrian with her bike, but the pedestrian does not sustain any injuries.

9 - R: Lakisha is 18 years old. Lakisha usually rides her bicycle down a busy street on her way to work. One day while riding her bike to work, Lakisha wants to ride her bike on the sidewalk instead of in the road to avoid traffic, and she does so, realizing that there is some risk that riding in this way will cause her to hit a pedestrian. Lakisha strikes a pedestrian with her bike, but the pedestrian does not sustain any injuries.

9 - N: Lakisha is 18 years old. Lakisha usually rides her bicycle down a busy street on her way to work. One day while riding her bike to work in the morning, she is in a rush and hurriedly tries to take a short cut that involves riding her bike off of the street and on to the sidewalk, where pedestrians are walking in her path. Lakisha strikes a pedestrian with her bike, but the pedestrian does not sustain any injuries.

9 - B: Lakisha is 18 years old. Lakisha usually rides her bicycle down a busy street on her way to work. One day while riding her bike to work, a pedestrian quite suddenly steps out into the bike path, right in front of Lakisha, who is traveling at a normal and safe speed and unavoidably cannot change direction quickly enough to avoid the pedestrian. Lakisha strikes the pedestrian with her bike, but the pedestrian does not sustain any injuries.

10 - P: Lakisha is 18 years old. Lakisha is driving her golf cart, following a cart of golfers in front of her. While going to the next hole on the course, Lakisha gets angry at how slow the golf cart in front of her is going, and she speeds her golf cart up desiring to hit the cart in front of him. The carts hit, but their bumpers absorb all the shock, so there is no damage and no injury.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1065

10 - K: Lakisha is 18 years old. Lakisha is driving her golf cart, following a cart of golfers in front of her. Wanting to see what the golf cart's top speed is, she speeds up her golf cart, aware that at this speed she is almost certainly going to hit the golf cart that is in front of her on the path. The carts hit, but their bumpers absorb all the shock, so there is no damage and no injury.

10 - R: Lakisha is 18 years old. Lakisha is driving her golf cart, following a cart of golfers in front of her. Wanting to see what the golf cart's top speed is, she speeds up her golf cart, realizing that at this speed there is some risk that she will hit the cart in front of her. The carts hit, but their bumpers absorb all the shock, so there is no damage and no injury.

10 - N: Lakisha is 18 years old. Lakisha is driving her golf cart, following a cart of golfers in front of her. While driving around a curve in the golf cart path, Lakisha carelessly takes her eyes off the road when she looks over at another golfer who is playing, and as a result runs into the golf cart in front of her. The carts hit, but their bumpers absorb all the shock, so there is no damage and no injury.

10 - B: Lakisha is 18 years old. Lakisha is driving her golf cart, following a cart of golfers in front of her. While driving her cart on the path that connects one hole to the next, the brakes on Lakisha's golf cart suddenly malfunction, and as a result of the brake malfunction, her golf cart unavoidably swerves toward the cart in front of her. The carts hit, but their bumpers absorb all the shock, so there is no damage and no injury.

10 Medium Harm Themes (Themes #11–20)

11 - P: Lakisha is 18 years old. Lakisha is attending an outdoor concert and is sitting behind a row of other concertgoers. During the concert Lakisha gets angry that fans in the row in front of her keep standing and blocking her view, so Lakisha wants to hurt one of them and throws her soda can at the row of fans standing in front of her. The soda can hits one of the fellow concertgoers in the face, breaking his nose.

11 - K: Lakisha is 18 years old. Lakisha is attending an outdoor concert and is sitting behind a row of other concertgoers. At one point during the concert, wanting to cheer for her favorite song, Lakisha throws her soda can in the air, aware that throwing the can in this way will almost certainly also cause it to hit someone in the row in front of her. The soda can hits one of the fellow concertgoers in the face, breaking his nose.

11 - R: Lakisha is 18 years old. Lakisha is attending an outdoor concert and is sitting behind a row of other concertgoers. At one point during the concert, wanting to cheer for her favorite song, Lakisha throws her soda can in the air, understanding that it could easily happen that throwing the can in this way will also cause it to hit someone in front of her. The soda can hits one of the fellow concertgoers in the face, breaking his nose.

11 - N: Lakisha is 18 years old. Lakisha is attending an outdoor concert and is sitting behind a row of other concertgoers. At one point during the concert, wanting to cheer for her favorite song, Lakisha throws her soda can in the air, overlooking the fact that throwing the can in this way will also cause it to hit someone in the row in front of her. The soda can hits one of the fellow concertgoers in the face, breaking his nose.

11 - B: Lakisha is 18 years old. Lakisha is attending an outdoor concert and is sitting behind a row of other concertgoers. At one point during the concert, when Lakisha steps out toward the restroom, she is pushed from behind by another concertgoer, and Lakisha unavoidably loses her grip on her soda can, which is thrown in the air toward the row in front of her. The soda can hits one of the fellow concertgoers in the face, breaking his nose.

12 - P: Lakisha is 18 years old. Lakisha is in a hardware store, carrying a long piece of wood toward the checkout line. Angry that another customer walking in front of her is going too slow and preventing her from getting to the checkout line quickly, Lakisha desires to hurt the person and she swings the piece of wood toward the person. The wood hits the person, causing a minor bruise and scratch that requires a doctor's bill of \$317.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1067

12 - K: Lakisha is 18 years old. Lakisha is in a hardware store, carrying a long piece of wood toward the checkout line. Wanting to get to the checkout before another customer who is walking slowly in front of her, Lakisha turns the corner quickly with her piece of wood, aware that by doing this the wood will almost certainly hit that person. The wood hits the person, causing a minor bruise and scratch that requires a doctor's bill of \$317.

12 - R: Lakisha is 18 years old. Lakisha is in a hardware store, carrying a long piece of wood toward the checkout line. Wanting to get to the checkout before another customer who is walking slowly in front of her, Lakisha turns the corner quickly with her piece of wood, recognizing there's a good chance that by doing this the wood will hit that person. The wood hits the person, causing a minor bruise and scratch that requires a doctor's bill of \$317.

12 - N: Lakisha is 18 years old. Lakisha is in a hardware store, carrying a long piece of wood toward the checkout line. Wanting to get to the checkout line quickly, and hurrying to do so, Lakisha turns the corner so quickly that another person coming around the corner does not have enough time to get out of the way of the wood. The wood hits the person, causing a minor bruise and scratch that requires a doctor's bill of \$317.

12 - B: Lakisha is 18 years old. Lakisha is in a hardware store, carrying a long piece of wood on a cart toward the checkout line. Despite being as careful as she could, another customer suddenly walks right in front of Lakisha's cart, causing Lakisha to accidentally bump the piece of wood into him. The wood hits the person, causing a minor bruise and scratch that requires a doctor's bill of \$317.

13 - P: Lakisha is 18 years old. Lakisha asks Rob if she can borrow Rob's sports car for the day because Lakisha's car is in the shop. Lakisha, who is jealous of Rob's car, chooses to wear out the clutch in Rob's car by riding the clutch and revving the engine all day so that it will soon fail. Two weeks later Rob notices that his clutch is slipping and has to be replaced, costing him hundreds and a week of inconvenience without a car.

13 - K: Lakisha is 18 years old. Lakisha asks Rob if she can borrow Rob's sports car for the day because Lakisha's car is in the shop. Lakisha, who never gets to drive a sports car, drives Rob's car as hard as possible all day, understanding that it is almost guaranteed that this will damage the clutch. Two weeks later Rob notices that his clutch is slipping and has to be replaced, costing him hundreds and a week of inconvenience without a car.

13 - R: Lakisha is 18 years old. Lakisha asks Rob if she can borrow Rob's sports car for the day because Lakisha's car is in the shop. Lakisha, who never gets to drive a sports car, drives Rob's car as hard as possible all day, realizing there is some risk that this will damage the clutch. Two weeks later Rob notices that his clutch is slipping and has to be replaced, costing him hundreds and a week of inconvenience without a car.

13 - N: Lakisha is 18 years old. Lakisha asks Rob if she can borrow Rob's sports car for the day because Lakisha's car is in the shop. Lakisha, who never gets to drive a sports car, drives Rob's car very hard all day, not paying attention to the good chance that doing so will damage the clutch. Two weeks later Rob notices that his clutch is slipping and has to be replaced, costing him hundreds and a week of inconvenience without a car.

13 - B: Lakisha is 18 years old. Lakisha asks Rob if she can borrow Rob's sports car for the day because Lakisha's car is in the shop. Rob doesn't tell Lakisha that she needs to double-clutch, so Lakisha inadvertently damages the clutch when she drives it like a typical car despite her best efforts to be careful. Two weeks later Rob notices that his clutch is slipping and has to be replaced, costing him hundreds and a week of inconvenience without a car.

14 - P: Lakisha is 18 years old. Lakisha has a job housesitting for a couple while they are away on a winter vacation. Lakisha is in a bad mood and wants to cause some damage to the house, so she clogs the toilet, causing it to overflow and flood the basement with water. Water from the toilet continuously overflows causing a small flood in the basement, and when the homeowners return they must gut out and rebuild much of the basement.

14 - K: Lakisha is 18 years old. Lakisha has a job housesitting for a couple while they are away on a winter vacation. There is no basement garbage can so Lakisha flushes trash down the toilet, almost positive this will clog it and cause it to overflow and flood the basement with water. Water from the toilet continuously overflows causing a small flood in the basement, and when the homeowners return they must gut out and rebuild much of the basement.

14 - R: Lakisha is 18 years old. Lakisha has a job housesitting for a couple while they are away on a winter vacation. There is no basement garbage can so Lakisha flushes trash down the toilet, conscious of the real risk that this will clog it and cause it to overflow and flood the basement with water. Water from the toilet continuously overflows causing a small flood in the basement, and when the homeowners return they must gut out and rebuild much of the basement.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1069

14 - N: Lakisha is 18 years old. Lakisha has a job housesitting for a couple while they are away on a winter vacation. There is no basement garbage can so Lakisha flushes trash down the toilet, not paying attention to the good chance she will clog it and cause it to overflow and flood the basement with water. Water from the toilet continuously overflows causing a small flood in the basement, and when the homeowners return they must gut out and rebuild much of the basement.

14 - B: Lakisha is 18 years old. Lakisha has a job housesitting for a couple while they are away on a winter vacation. Lakisha uses the toilet in the basement and flushes it before returning upstairs, inadvertently and unknowingly causing the toilet to overflow into the basement because it was broken. Water from the toilet continuously overflows causing a small flood in the basement, and when the homeowners return they must gut out and rebuild much of the basement.

15 - P: Lakisha is 18 years old. Fred and Lakisha (who is already seated) work together in the same office, and they are both in their company's cafeteria at lunchtime. Angry with Fred after an argument, when Lakisha sees Fred starting to walk by, Lakisha decides to hurt Fred, and sticks her leg out, tripping him. Fred trips over Lakisha's leg and falls to the floor, getting a large and painful bruise, but sustaining no permanent injuries.

15 - K: Lakisha is 18 years old. Fred and Lakisha (who is already seated) work together in the same office, and they are both in their company's cafeteria at lunchtime. Lakisha stretches her legs out to relax, practically certain that Fred, who is walking near Lakisha's table, will trip over them and get hurt. Fred trips over Lakisha's leg and falls to the floor, getting a large and painful bruise, but sustaining no permanent injuries.

15 - R: Lakisha is 18 years old. Fred and Lakisha (who is already seated) work together in the same office, and they are both in their company's cafeteria at lunchtime. Lakisha stretches her legs out to relax, conscious of the real risk that Fred, who is walking near Lakisha's table, will trip over them and get hurt. Fred trips over Lakisha's leg and falls to the floor, getting a large and painful bruise, but sustaining no permanent injuries.

15 - N: Lakisha is 18 years old. Fred and Lakisha (who is already seated) work together in the same office, and they are both in their company's cafeteria at lunchtime. Without even noticing that Fred is walking past her table, Lakisha sticks her legs into the walking area, to stretch them and get comfortable while relaxing during lunch. Fred trips over Lakisha's leg and falls to the floor, getting a large and painful bruise, but sustaining no permanent injuries.

15 - B: Lakisha is 18 years old. Fred and Lakisha (who is already seated) work together in the same office, and they are both in their company's cafeteria at lunchtime. At the same moment that Fred is walking past, a co-worker eating nearby spills a hot cup of coffee on Lakisha, who involuntarily moves her leg sideways as a result. Fred trips over Lakisha's leg and falls to the floor, getting a large and painful bruise, but sustaining no permanent injuries.

16 - P: Lakisha is 18 years old. Lakisha's property has a backyard to her house which abuts her neighbor's backyard rose garden, which is full of prize rose bushes. Angry with her neighbor after an argument earlier in the week, Lakisha intends to kill his neighbor's prize rose bushes, and so she sprays anti-weed chemicals all over the neighbor's yard. After Lakisha does the anti-weed spraying, the chemicals kill the prize rose bushes in her neighbor's backyard garden.

16 - K: Lakisha is 18 years old. Lakisha's property has a backyard to her house which abuts her neighbor's backyard rose garden, which is full of prize rose bushes. Wanting to kill weeds in her backyard, Lakisha sprays anti-weed chemicals all over her property, almost positive that this will also kill his neighbor's prize rose bushes. After Lakisha does the anti-weed spraying, the chemicals kill the prize rose bushes in her neighbor's backyard garden.

16 - R: Lakisha is 18 years old. Lakisha's property has a backyard to her house which abuts her neighbor's backyard rose garden, which is full of prize rose bushes. Wanting to kill weeds in her backyard, Lakisha sprays anti-weed chemicals all over her property, aware of the substantial risk that this will also kill her neighbor's prize rose bushes. After Lakisha does the anti-weed spraying, the chemicals kill the prize rose bushes in her neighbor's backyard garden.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1071

16 - N: Lakisha is 18 years old. Lakisha's property has a backyard to her house which abuts her neighbor's backyard rose garden, which is full of prize rose bushes. One day Lakisha sprays anti-weed chemicals all over her property, overlooking the fact that spraying chemicals in the direction of her neighbor's prize rose bushes will kill her neighbor's rose bushes. After Lakisha does the anti-weed spraying, the chemicals kill the prize rose bushes in her neighbor's backyard garden.

16 - B: Lakisha is 18 years old. Lakisha's property has a backyard to her house which abuts her neighbor's backyard rose garden, which is full of prize rose bushes. Lakisha carefully tries to find an anti-weed spray supposed to be safe for her neighbor's roses, but through an honest mistake she selects the wrong type of spray because they are not clearly labeled. After Lakisha does the anti-weed spraying, the chemicals kill the prize rose bushes in her neighbor's backyard garden.

17 - P: Lakisha is 18 years old. Every year Lakisha holds a fourth of July party at her home where she invites her friends and family to enjoy her food and her fireworks. Lakisha aims a firework so that it will explode right next to Ryan's head, with the desire of injuring him in retaliation for a previous dispute between them. The firework Lakisha set off explodes next to Ryan's head, bursting his eardrum and making him unable to hear in that ear for several months.

17 - K: Lakisha is 18 years old. Every year Lakisha holds a fourth of July party at her home where she invites her friends and family to enjoy her food and her fireworks. Lakisha aims a firework so that it will explode right next to Ryan's head in order to scare him, practically certain that Ryan will be injured as a result. The firework Lakisha set off explodes next to Ryan's head, bursting his eardrum and making him unable to hear in that ear for several months.

17 - R: Lakisha is 18 years old. Every year Lakisha holds a fourth of July party at her home where she invites her friends and family to enjoy her food and her fireworks. Lakisha aims a firework so that it will explode right by Ryan's head in order to scare him, realizing there is some risk that Ryan might be injured. The firework Lakisha set off explodes next to Ryan's head, bursting his eardrum and making him unable to hear in that ear for several months.

17 - N: Lakisha is 18 years old. Every year Lakisha holds a fourth of July party at her home where she invites her friends and family to enjoy her food and her fireworks. Lakisha aims a firework so that it will explode right by Ryan's head in order to scare him, overlooking the real chance that Ryan would be injured. The firework Lakisha set off explodes next to Ryan's head, bursting his eardrum and making him unable to hear in that ear for several months.

17 - B: Lakisha is 18 years old. Every year Lakisha holds a fourth of July party at her home where she invites her friends and family to enjoy her food and her fireworks. Despite being as careful as she could when setting off the firework, a sudden gust of wind results in Lakisha accidentally setting the firework off right in Ryan's direction. The firework Lakisha set off explodes next to Ryan's head, bursting his eardrum and making him unable to hear in that ear for several months.

18 - P: Lakisha is 18 years old. Lakisha and Daniel are both on a white water rafting tour as part of a trip sponsored by their employer. During the trip Lakisha gets very angry with Daniel after they argue repeatedly, and Lakisha wants to hurt Daniel, so she pulls her paddle out of the water and hits him with it. Lakisha's paddle hits Daniel squarely in the mouth, resulting in two of Daniel's teeth being knocked out and also leaving him with a large cut across his cheek.

18 - K: Lakisha is 18 years old. Lakisha and Daniel are both on a white water rafting tour as part of a trip sponsored by their employer. Trying to annoy Daniel, Lakisha twirls her paddle repeatedly in Daniel's direction, aware that Daniel will at some point almost certainly be hit by the paddle. The paddle hits Daniel squarely in the mouth, knocking out two of Daniel's teeth and giving him a large cut.

18 - R: Lakisha is 18 years old. Lakisha and Daniel are both on a white water rafting tour as part of a trip sponsored by their employer. Trying to annoy Daniel, Lakisha twirls her paddle repeatedly in Daniel's direction, even though she realizes that there is some risk that Daniel will at some point be hit by the paddle. The paddle hits Daniel squarely in the mouth, knocking out two of Daniel's teeth and giving him a large cut.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1073

18 - N: Lakisha is 18 years old. Lakisha and Daniel are both on a white water rafting tour as part of a trip sponsored by their employer. Trying to annoy Daniel, Lakisha twirls her paddle repeatedly in Daniel's direction, without even noticing it's possible that the paddle will at some point hit Daniel. Lakisha's paddle hits Daniel squarely in the mouth, resulting in two of Daniel's teeth being knocked out and also leaving him with a large cut across his cheek.

18 - B: Lakisha is 18 years old. Lakisha and Daniel are both on a white water rafting tour as part of a trip sponsored by their employer. During the trip Lakisha inadvertently loses control of her paddle when the raft suddenly and unexpectedly hits a particularly bad section of rapids. Lakisha's paddle hits Daniel squarely in the mouth, resulting in two of Daniel's teeth being knocked out and also leaving him with a large cut across his cheek.

19 - P: Lakisha is 18 years old. Lakisha and Andy are working outside to finish putting up a Christmas lights display. Lakisha is still angry with Andy after a heated argument they had earlier in the week, and deciding to injure Andy, Lakisha turns the breaker switch on when she sees that Andy is working with exposed wires. Andy is shocked by the wire that is touching him, but fully recovers after spending three days in the hospital.

19 - K: Lakisha is 18 years old. Lakisha and Andy are working outside to finish putting up a Christmas lights display. Wanting to show off the display to an attractive neighbor passing by, Lakisha turns the breaker switch on while Andy is still working with exposed wires, understanding that it is almost guaranteed that Andy will be shocked. Andy is shocked by the wire that is touching him, but fully recovers after spending three days in the hospital.

19 - R: Lakisha is 18 years old. Lakisha and Andy are working outside to finish putting up a Christmas lights display. Wanting to show off the display to an attractive neighbor passing by, Lakisha turns the breaker switch on while Andy is still working with exposed wires, recognizing there is a good chance Andy will be shocked. Andy is shocked by the wire that is touching him, but fully recovers after spending three days in the hospital.

19 - N: Lakisha is 18 years old. Lakisha and Andy are working outside to finish putting up a Christmas lights display. After Lakisha and Andy have put up a large number of lights, Lakisha wants to see what the display looks like and she carelessly assumes Andy is finished working with exposed wires, and turns the breaker switch on. Andy is shocked by the wire that is touching him, but fully recovers after spending three days in the hospital.

19 - B: Lakisha is 18 years old. Lakisha and Andy are working outside to finish putting up a Christmas lights display. When it's time to see if all the lights are working properly, Lakisha, through an honest mistake because Andy has given her the all-clear sign, throws the breaker switch while an exposed wire is still touching Andy's skin. Andy is shocked by the wire that is touching him, but fully recovers after spending three days in the hospital.

20 - P: Lakisha is 18 years old. Lakisha and Mark are doing some repair work on a back porch. Lakisha is still angry with Mark because of a heated argument they had earlier in the day, and Lakisha wants to hurt him, and does so by using her hands to push him off the porch to the yard below. Mark falls off the porch, hits the grass, and suffers minor injuries requiring a two-day hospital stay and a \$600 doctor's bill.

20 - K: Lakisha is 18 years old. Lakisha and Mark are doing some repair work on a back porch. Wanting to get to the corner of the porch where her tools are, Lakisha gives Mark a push, aware that this push will also almost certainly send Mark off the porch and injure him. Mark falls off the porch, hits the grass, and suffers minor injuries requiring a two-day hospital stay and a \$600 doctor's bill.

20 - R: Lakisha is 18 years old. Lakisha and Mark are doing some repair work on a back porch. Wanting to get to the corner of the porch where her tools are, Lakisha gives Mark a push, realizing that there is some risk that this push will also send Mark off the porch and injure him. Mark falls off the porch, hits the grass, and suffers minor injuries requiring a two-day hospital stay and a \$600 doctor's bill.

20 - N: Lakisha is 18 years old. Lakisha and Mark are doing some repair work on a back porch. After Lakisha and Mark finish their day of repair work on the porch, Lakisha is in a hurry to leave the work site and get home, and while hurrying she bumps into Mark, causing Mark to lose his balance. Mark falls off the porch, hits the grass, and suffers minor injuries requiring a two-day hospital stay and a \$600 doctor's bill.

20 - B: Lakisha is 18 years old. Lakisha and Mark are doing some repair work on a back porch. At one point during the day while Lakisha and Mark are working, a very strong gust of wind suddenly blows onto the porch and Lakisha is involuntarily thrown by the wind into Mark, pushing him off the porch. Mark falls off the porch, hits the grass, and suffers minor injuries requiring a two-day hospital stay and a \$600 doctor's bill.

10 High Harm Themes (Themes #21–30)

21 - P: Lakisha is 18 years old. Lakisha is walking home from the store with a bag full of sharp metal nails. Crossing an intersection, Lakisha decides to cause damage to some cars passing by because she thinks they're driving too fast, and so she throws the nails into the middle of the street, where she knows the cars will run over them. Three cars run over the nails, resulting in a crash that causes serious property damage to two cars.

21 - K: Lakisha is 18 years old. Lakisha is walking home from the store with a bag full of sharp metal nails. In a hurry to get home, Lakisha is aware that nails slide out of the bag, but she doesn't stop to pick them up, understanding that cars are almost guaranteed to run over the nails and as a result get damaged. Three cars run over the nails, resulting in a crash that causes serious property damage to two cars.

21 - R: Lakisha is 18 years old. Lakisha is walking home from the store with a bag full of sharp metal nails. In a hurry, Lakisha is aware that nails slide out of the bag, but she doesn't stop to pick them up, understanding that it could easily happen that cars will run over the nails and be damaged. Three cars run over the nails, resulting in a crash that causes serious property damage to two cars.

21 - N: Lakisha is 18 years old. Lakisha is walking home from the store with a bag full of sharp metal nails. In a rush to get home, she attempts to hurriedly cross the street while carrying her bag full of metal nails under her arm, not seeing some nails slide out of her bag and fall onto the street in spots where the passing traffic will run over them. Three cars run over the nails, resulting in a crash that causes serious property damage to two cars.

21 - B: Lakisha is 18 years old. Lakisha is walking home from the store with a bag full of sharp metal nails. Waiting for a walk signal while at a busy intersection, a car making an illegal turn loses control and suddenly swerves wildly toward Lakisha, causing her to jump and inadvertently spill some nails, despite her best efforts not to. Three cars run over the nails, resulting in a crash that causes serious property damage to two cars.

22 - P: Lakisha is 18 years old. Lakisha is walking on an overpass, and notices a stone at the edge of it. As she walks over to take a closer look, Lakisha sees a car down on the highway approaching the overpass and kicks the stone off the overpass because she had decided to hit the car and injure whoever is driving the car. The stone hits the car, causing the car to hit the median and causing the driver serious injury.

22 - K: Lakisha is 18 years old. Lakisha is walking on an overpass, and notices a stone at the edge of it. To see how far she can kick the stone, Lakisha kicks the stone off the overpass, practically certain that in so doing it will also hit one of the many cars passing underneath and cause serious injury. The stone hits a car, causing the car to hit the median and causing the driver serious injury.

22 - R: Lakisha is 18 years old. Lakisha is walking on an overpass, and notices a stone at the edge of it. To see how far she can kick the stone, Lakisha kicks the stone off the overpass, understanding that in so doing it could easily happen that it will also hit one of the cars passing underneath, causing serious injury. The stone hits a car, causing the car to hit the median and causing the driver serious injury.

22 - N: Lakisha is 18 years old. Lakisha is walking on an overpass, and notices a stone at the edge of it. To see how far she can kick it down the street, Lakisha kicks the stone, overlooking the fact that she's standing on an overpass and that it might fall off, hit one of the cars, and cause serious injury. The stone hits a car, causing the car to hit the median and causing the driver serious injury.

22 - B: Lakisha is 18 years old. Lakisha is walking on an overpass, and notices a stone at the edge of it. While she's walking closer to the stone to inspect it, a car suddenly comes barreling toward Lakisha, and to avoid it Lakisha jumps to the side, in the process inadvertently kicking the stone off the overpass, despite her best efforts not to. The stone hits a car, causing the car to hit the median and causing the driver serious injury.

23 - P: Lakisha is 18 years old. Lakisha is packing up her campsite after a night of camping. Upset at having been fired by the forest service earlier in the year, Lakisha intends to destroy some forestland as well as buildings nearby the forest, so she builds a very large campfire in order to start a forest fire. The campfire spreads to the dry brush, causing a forest fire that burns many acres and two nearby unoccupied buildings.

23 - K: Lakisha is 18 years old. Lakisha is packing up her campsite after a night of camping. Wanting to leave the site quickly without cleaning up, Lakisha doesn't put out her large campfire, aware that this will almost certainly start a forest fire and also that the fire will damage some forestland as well as buildings nearby the forest. The campfire spreads to the dry brush, causing a forest fire that burns many acres and two nearby unoccupied buildings.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1077

23 - R: Lakisha is 18 years old. Lakisha is packing up her campsite after a night of camping. Wanting to leave the site quickly without cleaning up, Lakisha doesn't put out her large campfire, understanding that it could easily happen that this will start a forest fire and damage some forestland as well as buildings nearby the forest. The campfire spreads to the dry brush, causing a forest fire that burns many acres and two nearby unoccupied buildings.

23 - N: Lakisha is 18 years old. Lakisha is packing up her campsite after a night of camping. Lakisha does not fully put out her large campfire, leaving some embers burning as she leaves, not paying attention to the fact that leaving even a few embers burning could start a forest fire that would damage some forestland as well as buildings nearby the forest. The campfire spreads to the dry brush, causing a forest fire that burns many acres and two nearby unoccupied buildings.

23 - B: Lakisha is 18 years old. Lakisha is packing up her campsite after a night of camping. Lakisha is in the process of carefully extinguishing her campfire when a large tree limb above breaks and crashes into Lakisha, causing her to stumble involuntarily into the fire, which scatters embers that, in turn, immediately ignite a new fire. The campfire spreads to the dry brush, causing a forest fire that burns many acres and two nearby unoccupied buildings.

24 - P: Lakisha is 18 years old. Lakisha is doing carpentry work on her house, which abuts a public mountain bike trail. Angry with the mountain bikers for making too much noise when biking past her house, one day while carrying a large armload of planks, Lakisha desires to injure some bikers and drops some of the planks on to the bike trail. Two bikers passing by at that moment hit the planks, crash as a result, and are seriously injured.

24 - K: Lakisha is 18 years old. Lakisha is doing carpentry work on her house, which abuts a public mountain bike trail. While carrying wood planks, Lakisha drops some onto the trail and doesn't pick them up because she wants to start the carpentry work, practically certain that in doing so bikers will hit the planks and be injured. Two bikers passing by at that moment hit the planks, crash as a result, and are seriously injured.

24 - R: Lakisha is 18 years old. Lakisha is doing carpentry work on her house, which abuts a public mountain bike trail. While carrying wood planks, Lakisha drops some onto the trail and doesn't pick them up because she wants to start the carpentry, aware that there is a substantial risk that bikers will hit the planks and be injured. Two bikers passing by at that moment hit the planks, crash as a result, and are seriously injured.

24 - N: Lakisha is 18 years old. Lakisha is doing carpentry work on her house, which abuts a public mountain bike trail. One day while Lakisha is carrying wood planks from her shed to her workshop in order to begin building a new set of steps for her house, she drops some of the wood planks onto the bike trail without even noticing. Two bikers passing by at that moment hit the planks, crash as a result, and are seriously injured.

24 - B: Lakisha is 18 years old. Lakisha is doing carpentry work on her house, which abuts a public mountain bike trail. One day while Lakisha is carefully carrying wood planks from her shed to the backyard where she is building a wood porch, a sudden strong gust of wind causes Lakisha to inadvertently drop several planks, despite her best efforts not to. Two bikers passing by at that moment hit the planks, crash as a result, and are seriously injured.

25 - P: Lakisha is 18 years old. Lakisha enjoys skiing, and often likes to go snow skiing high up in the mountains that are only a short drive from her home. Angry with new skiers who have started to ski on the same slope, Lakisha intends to kill two skiers she sees by digging deep beneath an overhang to start an avalanche that will move down the slope to where the skiers are. Lakisha's actions result in an avalanche that kills the two skiers on the slopes.

25 - K: Lakisha is 18 years old. Lakisha enjoys skiing, and often likes to go snow skiing high up in the mountains that are only a short drive from her home. Wanting to build a ski jump, one day Lakisha starts digging deep beneath an overhang, almost positive that in so doing she will also start an avalanche that will kill two skiers she sees below on the slope. Lakisha's actions result in an avalanche that kills the two skiers on the slopes.

25 - R: Lakisha is 18 years old. Lakisha enjoys skiing, and often likes to go snow skiing high up in the mountains that are only a short drive from her home. Wanting to build a ski jump, one day Lakisha starts digging deep beneath an overhang, recognizing there is a good chance that in doing so she might also kill two skiers below on the slope. Lakisha's actions result in an avalanche that kills the two skiers on the slopes.

25 - N: Lakisha is 18 years old. Lakisha enjoys skiing, and often likes to go snow skiing high up in the mountains that are only a short drive from her home. Wanting to build a big ski jump, one day Lakisha starts using a mechanical tool to start digging deep beneath an overhang, without even noticing that her digging could start an avalanche and kill the two skiers on the slope. Lakisha's actions result in an avalanche that kills the two skiers on the slopes.

25 - B: Lakisha is 18 years old. Lakisha enjoys skiing, and often likes to go snow skiing high up in the mountains that are only a short drive from her home. Because of structural factors that are not visible on the surface and that Lakisha could not have known about, one day through an honest mistake Lakisha skis on a fragile part of the snow, which could cause an avalanche that will kill two skiers below. Lakisha's actions result in an avalanche that kills the two skiers on the slopes.

26 - P: Lakisha is 18 years old. Lakisha is a welder, and she and a fellow welder are working on a new downtown library. After a contentious argument during the lunch break, Lakisha is very angry with her co-worker and chooses to burn him by secretly using his acetylene torch to heat one end of a small beam while her co-worker is trying to fit the beam into place. The co-worker is burned severely on his right hand.

26 - K: Lakisha is 18 years old. Lakisha is a welder, and she and a fellow welder are working on a new downtown library. Lakisha can't fit one beam into another, so she cuts the beam with her acetylene torch, understanding that this action is also almost guaranteed to burn her co-worker who is holding up the other end of the beam but cannot see what Lakisha is doing. The co-worker is burned severely on his right hand.

26 - R: Lakisha is 18 years old. Lakisha is a welder, and she and a fellow welder are working on a new downtown library. Lakisha can't fit one beam into another, so she cuts the beam with her acetylene torch, aware that there is a substantial risk of burning her co-worker, who is holding up the other end of the beam but cannot see what Lakisha is doing. The co-worker is burned severely on his right hand.

26 - N: Lakisha is 18 years old. Lakisha is a welder, and she and a fellow welder are working on a new downtown library. Lakisha can't fit one beam into another, so she cuts the beam with her acetylene torch, not paying attention to the fact that by doing so she will burn her co-worker, who is holding the other end of the beam but cannot see what Lakisha is doing. The co-worker is burned severely on his right hand.

26 - B: Lakisha is 18 years old. Lakisha is a welder, and she and a fellow welder are working on a new downtown library. Lakisha is having trouble fitting one small beam into another, and despite being as careful as can be in cutting the edge of the beam with her acetylene torch, the flame accidentally hits her co-worker when her co-worker suddenly darts in front of her unexpectedly. The co-worker is burned severely on his right hand.

27 - P: Lakisha is 18 years old. Lakisha operates and is the sole mechanic at an automotive repair shop high up in the mountains. Lakisha found out that one of her customers left a bad review and chooses to injure the customer, so she sabotages the customer's brakes during her next repair job. The customer's brakes give out on the way home, causing the customer to lose control of the car and crash, dying from his injuries.

27 - K: Lakisha is 18 years old. Lakisha operates and is the sole mechanic at an automotive repair shop high up in the mountains. Wanting to make more money by servicing more cars, Lakisha decides not to fix the brakes on one car, almost positive the customer will lose control of his car and injure himself. The customer's brakes give out on the way home, causing the customer to lose control of the car and crash, dying from his injuries.

27 - R: Lakisha is 18 years old. Lakisha operates and is the sole mechanic at an automotive repair shop high up in the mountains. Wanting to make more money by servicing more cars, Lakisha decides not to fix the brakes on one car, realizing there is some risk that the customer will lose control of his car and injure himself. The customer's brakes give out on the way home, causing the customer to lose control of the car and crash, dying from his injuries.

27 - N: Lakisha is 18 years old. Lakisha operates and is the sole mechanic at an automotive repair shop high up in the mountains. Behind schedule, Lakisha hurriedly inspects one customer's car and tells the customer it is safe to drive, forgetting to replace the worn brake linings because she is in a rush. The customer's brakes give out on the way home, causing the customer to lose control of the car and crash, dying from his injuries.

27 - B: Lakisha is 18 years old. Lakisha operates and is the sole mechanic at an automotive repair shop high up in the mountains. Lakisha completes a brake job, but through an honest mistake she uses a defective part, though the part looked fine when Lakisha inspected it. The customer's brakes give out on the way home, causing the customer to lose control of the car and crash, dying from his injuries.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1081

28 - P: Lakisha is 18 years old. Lakisha is a financial planner who invests her clients' savings for financial growth, and Kenny is Lakisha's new, wealthy client. Lakisha, who is jealous of Kenny's assets, wants to make Kenny lose a large sum of his money by investing in very risky stocks at an obviously inopportune time. Lakisha's investment of Kenny's funds yields very bad returns and causes Kenny to permanently lose over half of his large investment fund, setting back Kenny's retirement indefinitely.

28 - K: Lakisha is 18 years old. Lakisha is a financial planner who invests her clients' savings for financial growth, and Kenny is Lakisha's new, wealthy client. Lakisha wants to increase the value of a stock that many of her clients own, so she invests Kenny's money in it, virtually certain that this investment will lose Kenny money. Lakisha's investment of Kenny's funds yields very bad returns and causes Kenny to permanently lose over half of his large investment fund, setting back Kenny's retirement indefinitely.

28 - R: Lakisha is 18 years old. Lakisha is a financial planner who invests her clients' savings for financial growth, and Kenny is Lakisha's new, wealthy client. Lakisha wants to increase the value of a stock that many of her clients own, so she invests Kenny's money in it, understanding that this investment could easily lose Kenny money. Lakisha's investment of Kenny's funds yields very bad returns and causes Kenny to permanently lose over half of his large investment fund, setting back Kenny's retirement indefinitely.

28 - N: Lakisha is 18 years old. Lakisha is a financial planner who invests her clients' savings for financial growth, and Kenny is Lakisha's new, wealthy client. Lakisha wants to increase the value of a stock that many of her clients own, so she invests Kenny's money in it, without even noticing the risk that this investment will lose Kenny money. Lakisha's investment of Kenny's funds yields very bad returns and causes Kenny to permanently lose over half of his large investment fund, setting back Kenny's retirement indefinitely.

28 - B: Lakisha is 18 years old. Lakisha is a financial planner who invests her clients' savings for financial growth, and Kenny is Lakisha's new, wealthy client. Lakisha uses standard procedures to invest Kenny's money into the safest mutual funds and least risky investments, but because of an unforeseeable market crash, the entire market collapses. Lakisha's investment of Kenny's funds yields very bad returns and causes Kenny to permanently lose over half of his large investment fund, setting back Kenny's retirement indefinitely.

29 - P: Lakisha is 18 years old. On a busy city street, Lakisha is unable to pull out of the spot because a pedestrian hailing a cab is in the way. Lakisha is irritated by what she thinks is a rude social violation, so she desires to pull the car out in order to injure the pedestrian who is blocking her way. Lakisha's car runs over the pedestrian's foot as she leaves the parking spot, crushing nearly all the bones in the pedestrian's foot.

29 - K: Lakisha is 18 years old. On a busy city street, Lakisha is unable to pull out of the spot because a pedestrian hailing a cab is in the way. Lakisha is in a rush to leave, so she pulls the car out, virtually certain that she will injure the pedestrian standing in the way. Lakisha's car runs over the pedestrian's foot as she leaves the parking spot, crushing nearly all the bones in the pedestrian's foot.

29 - R: Lakisha is 18 years old. On a busy city street, Lakisha is unable to pull out of the spot because a pedestrian hailing a cab is in the way. Lakisha is in a rush to leave, so she pulls the car out, recognizing there is a good chance that she will injure the pedestrian. Lakisha's car runs over the pedestrian's foot as she leaves the parking spot, crushing nearly all the bones in the pedestrian's foot.

29 - N: Lakisha is 18 years old. On a busy city street, Lakisha is unable to pull out of the spot because a pedestrian hailing a cab is in the way. Lakisha is in a rush to leave, so she pulls the car out, without even noticing it is possible that she will injure the pedestrian standing in the way. Lakisha's car runs over the pedestrian's foot as she leaves the parking spot, crushing nearly all the bones in the pedestrian's foot.

29 - B: Lakisha is 18 years old. On a busy city street, Lakisha is unable to pull out of the spot because a pedestrian hailing a cab is in the way. As Lakisha waits to pull out of the spot, she uncontrollably sneezes, causing her to unavoidably lose her footing on the brake pedal, allowing the car to roll forward. Lakisha's car runs over the pedestrian's foot as she leaves the parking spot, crushing nearly all the bones in the pedestrian's foot.

30 - P: Lakisha is 18 years old. Lakisha rents out rafts for groups to use on the nearby river. When the employees of a rival rafting company decide to try out Lakisha's service, Lakisha rents them a leaky raft, with the desire that the leaks will cause the raft to start sinking in the rapids, fill with water, and hurt her rivals. The raft sinks due to the leaks, and the rafters suffer injuries requiring surgery and months of recovery.

June 2017]

RACIAL BIAS AND CRIMINAL MENTAL STATES

1083

30 - K: Lakisha is 18 years old. Lakisha rents out rafts for groups to use on the nearby river. Wanting to save every penny, Lakisha does not repair leaks in her largest raft, practically certain that these leaks will eventually widen and cause the raft to start sinking in the rapids, fill with water, and hurt the rafters. The raft sinks due to the leaks, and the rafters suffer injuries requiring surgery and months of recovery.

30 - R: Lakisha is 18 years old. Lakisha rents out rafts for groups to use on the nearby river. Wanting to save every penny, Lakisha does not repair leaks in her largest raft, recognizing there is a good chance that these leaks will eventually widen and cause the raft to start sinking in the rapids, fill with water, and hurt the rafters. The raft sinks due to the leaks, and the rafters suffer injuries requiring surgery and months of recovery.

30 - N: Lakisha is 18 years old. Lakisha rents out rafts for groups to use on the nearby river. One day Lakisha rents out her largest raft, overlooking the fact that this raft has several leaks, which should have been fixed, and that these leaks could cause the raft to start sinking in the rapids, fill with water, and hurt the rafters. The raft sinks due to the leaks, and the rafters suffer injuries requiring surgery and months of recovery.

30 - B: Lakisha is 18 years old. Lakisha rents out rafts for groups to use on the nearby river. Despite being as careful as she could in inspecting the rafts for leak holes, she accidentally rents out a raft that has some very weak points that are invisible to Lakisha and can cause leaks that will ultimately hurt the occupants. The raft sinks due to the leaks, and the rafters suffer injuries requiring surgery and months of recovery.

1084

HASTINGS LAW JOURNAL

[Vol. 68:1007
