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Different Shades of Bias: Skin Tone, Implicit Racial Bias, and Judgments of Ambiguous Evidence

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Justin D. Levinson [*] *& Danielle Young* [**]

The Robbery: 11:00 p.m., December 18, 2008. The owner of the Quick
Stop Mini Mart has just closed the store for the evening when two armed men
barge in. One of the men points a gun at the owner while the other walks be-
hind the counter to the cash register. The men take the money from the register
and escape with $550 in cash.

        The Security Camera: A Mini Mart security camera captures the rob-
bery in progress, generating a clear photo of one of the masked perpetrators.
The perpetrator's face is totally hidden by the mask, but the camera loosely cap-
tures his body type and his short sleeved shirt reveals his dark skin tone.

        The Arrest and Trial: A suspect is arrested and goes on trial for the
robbery. Evidence presented at trial includes the following: the defendant was
a youth Golden Gloves boxing champ in 2006, the defendant purchased an un-
traceable handgun three weeks before the robbery, the defendant is a member of
an anti-violence organization, and the defendant had a used movie ticket stub for
a show that started 20 minutes before the crime occurred.

        The Empirical Question: Does seeing the perpetrator's dark skin tone in
the security camera photo elicit implicit racial bias that affects the way jurors
evaluate ambiguous trial evidence?

I. INTRODUCTION

        Before scholars discovered the link between social science research on
implicit racial bias and legal theory, the notion that people act automatically and
unintentionally in racially biased ways was entirely outside the scope of legal
discourse.[1] Since this meaningful interdisciplinary breakthrough, many com-

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[1]   See Jerry Kang, Trojan Horses of Race, 118 HARV. L. REV. 1489, 1497–1539 (2005); Linda
Hamilton Krieger, The Content of Our Categories: A Cognitive Bias Approach to Discrimination
and Equal Employment Opportunity, 47 STAN. L. REV. 1161 (1995); Charles R. Lawrence III, The
Id, the Ego, and Equal Protection: Reckoning With Unconscious Racism, 39 STAN. L. REV. 317,
331–36 (1987) [hereinafter Id, Ego, and Equal Protection]. These articles, though groundbreaking
in legal scholarship, did not discover the psychological phenomena they discussed. In fact, psy-
chological research for decades has examined the way racial schemas work, often unintentionally.
For example, in a famous study by Gordon Allport and Leo Postman, "participants viewed a pic-
ture of passengers on a streetcar (one of whom was Black). In the picture, one White passenger
holds a razor blade and the Black passenger is empty-handed. After viewing the picture, partici-
pants were then asked to describe the picture to other participants who did not see the picture. As
participants told and retold the story to others, the story changed. After the story had been retold

mentators and judges have come to accept the changing reality of racial discrimination — discrimination that has largely shifted from overt and intentional to covert and unintentional.[2] Despite this scholarly progress, evidenced largely by commentators' willingness to consider the implications of complex scientific evidence as a possible pathway to legal reform,[3] the dearth of empirical studies testing implicit bias within the legal system is surprising.[4]   In an effort to begin filling the empirical research gap, this Article proposes and tests a new hypothesis called Biased Evidence Hypothesis. Biased Evidence Hypothesis posits that when racial stereotypes are activated, jurors automatically and unintentionally evaluate ambiguous trial evidence in racially biased ways. Because racial stereotypes in the legal context often involve stereotypes of African-Americans and other minority group members as aggressive criminals, Biased Evidence Hypothesis, if confirmed, could help explain the continued racial disparities that plague the American criminal justice system.[5]

Social science research, and in particular, social cognition[6] research on the phenomenon of "priming"[7] demonstrates that even the simplest of racial

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several times, some participants reported that the Black passenger — not the White passenger — held a razor blade." Justin D. Levinson, *Forgotten Racial Equality: Implicit Bias, Decisionmaking, and Misremembering*, 57 DUKE L.J. 345, 381 (2007) [hereinafter Levinson, *Forgotten Racial Equality*] (citing GORDON W. ALLPORT & LEO POSTMAN, THE PSYCHOLOGY OF RUMOR 65–68 (1965)).

[2]   *See generally* Jerry Kang & Mahzarin R. Banaji, *Fair Measures: A Behavioral Realist Revision of "Affirmative Action"*, 94 CAL. L. REV. 1063 (2006); Krieger, *supra* note 1. Despite this progress, legal reforms recognizing implicit bias have been slow. *See* Justin D. Levinson, *Race, Death and the Complicitous Mind*, 58 DEPAUL L. REV. 599 (2009) [hereinafter Levinson, *The Complicitous Mind*].

[3]   Implicit bias scholarship is by no means the only example of this progress. Scholarship in law and economics, behavioral law and economics, and more all rely upon scientific research methods. Even new journals, peer reviewed by law professors trained in empirical methods, have emerged. For example, the *Journal of Empirical Legal Studies* was launched in 2004.

[4]   A few research projects have begun to examine how implicit biases may or may not function in legal decision-making. *See, e.g.*, Jeffrey J. Rachlinski et al., *Does Unconscious Bias Affect Trial Judges?* 84 NOTRE DAME L. REV 1195 (2009) [hereinafter *Trial Judges*]. These studies are discussed *infra* Section II.A.3. *See infra* notes 50–76 and accompanying text.

[5]   One source of information on racial disparities in the criminal justice system is the Department of Justice Bureau of Justice, which publishes statistics on crime and race. *See* BUREAU OF JUSTICE   STATISTICS,   JAIL   INMATE   CHARACTERISTICS,   *available   at* http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&tid=122 (last visited Jan. 16, 2010) (indicating that 60% of inmates in local jails in the United States are minorities). For more on the continued racial disparities in the criminal justice system, see generally RANDALL KENNEDY, RACE, CRIME, AND THE LAW (1997); MARC MAUER, RACE TO INCARCERATE (2d ed., 2006).

[6]   Generally, the field of social cognition studies how people think about themselves and others, "often using methods from cognitive psychology to investigate how the human mind works." Levinson, *Forgotten Racial Equality, supra* note 1, at 354 (citing SUSAN T. FISKE & SHELLEY E. TAYLOR, SOCIAL COGNITION 2, 19 (2d ed. 1991)).

[7]   Priming describes "the incidental activation of knowledge structures, such as trait concepts and stereotypes, by the current situational context." John A. Bargh et al., *Automaticity of Social*

cues introduced into a trial might automatically and unintentionally evoke racial stereotypes, thus affecting the way jurors evaluate evidence. To examine this possibility (considered in the context of the armed robbery case outlined at the beginning of this Article), we designed an empirical study that tested how mock-jurors judge trial evidence.[8] As part of an "evidence slideshow," we showed half of the study participants a security camera photo of a dark-skinned perpetrator and the other half of the participants an otherwise identical photo of a lighter-skinned perpetrator.[9] The results of the study supported Biased Evidence Hypothesis and indicated that participants who saw a photo of a dark-skinned perpetrator judged subsequent evidence as more supportive of a guilty verdict compared to participants who saw a photo of a lighter-skinned perpetrator.

 This Article examines how exposing jurors to simple racial cues can trigger stereotypes and affect how they evaluate evidence in subtle but harmful ways. The Article is organized as follows. Section II first contextualizes this investigation in light of legal scholarship on implicit bias and interdisciplinary scholarship on race and legal decision-making and concludes that legal scholarship has generally succeeded in understanding how implicit bias may affect societal actors, but has been less successful in empirically testing specific hypotheses of how implicit bias affects decision-making. Section III sets the stage for our empirical study by explaining the scientific underpinnings of Biased Evidence Hypothesis. Social cognition research, particularly on the phenomena of priming, has demonstrated that the human mind responds quickly and automatically to racially stereotypic information, and that these automatic cognitive responses can have harmful effects on decision-making.[10]

 Section IV presents the empirical study we conducted. After informing participants of the basic facts surrounding an armed robbery, we showed them a series of crime scene photographs as part of an evidence slideshow. We randomly assigned the participants into two experimental conditions. Participants in each condition saw identical photos except in one key respect: half of the participants saw a surveillance camera photo of a dark-skinned perpetrator and half of the participants saw a surveillance camera photo of a lighter-skinned perpetrator.[11] We then presented participants with evidence from the trial, and asked them to judge how much each piece of evidence tended to indicate whether the defendant was guilty or not guilty. Results of the study showed that par-

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Behavior: Direct Effects of Trait Construct and Stereotype Activation on Action, 71 J. PERSONALITY & SOC. PSYCHOL. 230, 230 (1996).

[8] This empirical study is described in detail in Section IV, *infra.*

[9] For a description of the methods of the study, see *infra* notes 121–132 and accompanying text. The Photos are reproduced in Appendix B.

[10] Priming thus helps explain the cognitive processes underlying Biased Evidence Hypothesis.

[11] The photos were identical except that the skin tone was lightened using computer software. Thus, the only difference in the security camera photo of the perpetrator was the skin tone of the perpetrator.

ticipants who saw the photo of the dark-skinned perpetrator were more likely than participants who saw the photo of the lighter-skinned perpetrator to judge the evidence as tending to indicate criminal guilt and were also more likely to believe that the defendant was guilty of armed robbery.

Section V explores the results of the study as part of an amplification of the Story Model, an acclaimed model of jury decision-making. This model, which provides a step-by-step explanation of how jurors make decisions, has yet to consider the potentially pervasive impact of implicit racial bias in decision-making. Using the Story Model as a guide and considering the study results together with other emerging research on implicit bias, we deconstruct the multitude of ways that implicit racial bias can affect jury decision-making. We then call for the development of a complete model of implicit racial bias in jury decision-making. Section VI concludes by proposing a research agenda for continued interdisciplinary investigation on implicit bias in the law.

II. SCHOLARSHIP ON IMPLICIT BIAS AND RACE IN LEGAL DECISION-MAKING

When considering whether simple racial cues can trigger stereotypes and cause jurors to evaluate evidence in racially biased ways, it is helpful to contextualize this examination first in light of existing legal scholarship on implicit bias, and second in light of interdisciplinary scholarship on race in legal decision-making. These areas of scholarship have brought social science and legal scholarship quite close together, but few scholars have employed empirical studies designed to test how implicit bias affects jury decision-making.

A.   Legal Scholarship

Scholarship on implicit bias has emerged rapidly since the 1990's, and has made quite a splash in legal discourse.[12] This scholarship, which has led many commentators to reconsider laws in light of the scientific reality of racial bias, can best be reviewed in three separate categories, based both upon the substance of the scholarship and whether or not the projects are empirical in nature. These categories are: (1) non-empirical work dealing with the law's reaction to the implicit bias of societal actors; (2) non-empirical work dealing with implicit bias in legal decision-making or legal policies; and (3) empirical work examining implicit bias in the legal system. As this subsection will demonstrate, although scholarship on implicit bias has paved an important path for social jus-

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[12]   For reviews of implicit bias scholarship, *see* Kang, *supra* note 1; Kristin A. Lane et al., *Implicit Social Cognition and Law*, 3 ANN. REV. L. & SOC. SCI. 427, 444 (2007); Levinson, *Forgotten Racial Equality*, *supra* note 1; Justin D. Levinson, *Culture, Cognitions, and Legal Decision-Making*, *in* HANDBOOK OF MOTIVATION AND COGNITION ACROSS CULTURES 423, 423–39 (R. Sorrentino & S. Tamaguchi eds., 2008).

tice scholars and scholar-advocates who continue the fight for racial justice,[13] legal scholars have yet to consider fully the specific mechanisms whereby implicit bias manifests within the legal system. Similarly, they have yet to conduct (or collaborate with social scientists to conduct) more than a few empirical investigations of implicit racial bias in the legal context.

1.   Non-Empirical Work on Implicit Bias in Society

A great deal of legal scholarship on implicit bias discusses the implicit bias of decision-makers in the everyday world. Bias by these decision-makers might manifest in a variety of ways, ranging from a school board's decision to redistrict school boundaries, to an employer's decision about whether to hire a worker, to a fire department's decision to use a particular test to determine promotion. In an article widely credited as introducing the concept of unconscious bias[14] to legal scholarship,[15] Charles Lawrence criticized the Supreme Court's failure to understand the true, unconscious nature of discrimination.[16] Lawrence, who famously declared, "we are all racists,"[17] wrote the article in response to the then recent decision in *Washington v. Davis*,[18] which established a difficult to demonstrate intent-based threshold for proving discrimination. Lawrence sought to "expose and challenge the way that the Court had, with this single opinion, declared the reconstructive work of the 13th, 14th, and 15th amendments accomplished."[19] Through a critical cultural lens that called for

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[13]   For more on scholar advocates and political lawyers, *see* Eric K. Yamamoto, *Critical Race Praxis: Race Theory and Political Lawyering Practice in Post-Civil Rights America*, 95 MICH. L. REV. 821, 833–34 (1997).

[14]   Legal scholarship often refers to this bias as "unconscious bias," while social scientists typically refer to it as "implicit bias." Social scientists generally prefer to use the term "implicit" instead of "unconscious" because there are cases in which people may have some awareness of their own implicit biases, and therefore they may not be entirely "unconscious." *See* Russell H. Fazio & Michael A. Olson, *Implicit Measures in Social Cognition Research: Their Meanings and Use*, 54 ANN. REV. PSYCHOL. 297, 303 (2003).

[15]   Representing the impact of Lawrence's article, the Connecticut Law Review published a symposium issue containing various reflections on the legacy of Lawrence's article. *See, e.g.,* Avital Mentovich & John T. Jost, *The Ideological "ID"? System Justification and the Unconscious Perpetuation of Inequality*, 40 CONN. L. REV. 1095 (2008); Gowri Ramachandran, *Antisubordination, Rights, and Radicalism*, 40 CONN. L. REV. 1045 (2008). Lawrence also reflected on his own piece. *See* Charles Lawrence, *Unconscious Racism Revisited: Reflections on the Impact and Origins of "The Id, The Ego, and Equal Protection,"* 40 CONN. L. REV. 931 (2008) [hereinafter *Unconscious Racism Revisited*].

[16]   *See Id, Ego, and Equal Protection, supra* note 1, at 331–36.

[17]   *Id.* at 322.

[18]   426 U.S. 229 (1976). *Washington v. Davis*, which was based on a challenge to allegedly racially discriminatory hiring procedures, was and is particularly controversial because of the Court's focus on proving not just a discriminatory impact, but discriminatory purpose.

[19]   Lawrence describes his famous piece as primarily being "concerned with exploring how white supremacy is maintained not only through the intentional deployment of coercive power, but also through the creation, interpretation, and assimilation of racial text." *Unconscious Racism*

shared societal responsibility for racism, Lawrence introduced legal scholars to a psychologically informed critique of race and power.[20]   Lawrence relied on both Freudian and cognitive psychology to discuss Americans' pervasive unconscious racial bias, and called for the Court to employ a "cultural meaning" test (rather than an intent based one) for racial discrimination.[21]

Following Lawrence's lead in examining the connection between evidence on unconscious bias and anti-discrimination law, employment discrimination scholars have argued that laws requiring proof of an employer's intentional discrimination, such as Title VII, fail to understand the true non-conscious and automatic nature of discrimination.[22]   Initiating this scholarly progress in the employment discrimination arena, Linda Hamilton Krieger deconstructed social cognition work in light of Title VII's subjective intent standard.[23]   Krieger relied upon empirical social cognition studies to demonstrate that employment discrimination is not always intentional and to argue that legal standards should match psychological reality.[24]   Specifically, Krieger argued that courts should

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Revisited, supra note 15 at 939. Lawrence is quite critical of scholarship that has focused on the science of implicit bias without connecting it to a shared societal responsibility for racism. *Id.* at 956–66.

[20]   *See generally Id, Ego, and Equal Protection, supra* note 1.

[21]   *Id.* at 324. Lawrence explained this test:

> It suggests that the "cultural meaning" of an allegedly racially discriminatory act is the best available analogue for, and evidence of, a collective unconscious that we cannot observe directly. This test would thus evaluate governmental conduct to determine whether it conveys a symbolic message to which the culture attaches racial significance. A finding that the culture thinks of an allegedly discriminatory governmental action in racial terms would also constitute a finding regarding the beliefs and motivations of the governmental actors: The actors are themselves part of the culture and presumably could not have acted without being influenced by racial considerations, even if they are unaware of their racist beliefs. Therefore, the court would apply strict scrutiny.

Id. (citation omitted).

[22]   *See generally* Samuel R. Bagenstos, *The Structural Turn and the Limits of Antidiscrimination Law*, 94 CAL. L. REV. 1 (2006) [hereinafter *The Structural Turn*]; Melissa Hart, *Subjective Decisionmaking and Unconscious Discrimination*, 56 ALA. L. REV. 741 (2005); Krieger, *supra* note 1; Audrey J. Lee, *Unconscious Bias Theory in Employment Discrimination Litigation*, 40 HARV. C.R.-C.L. L. REV. 481 (2005); Ann C. McGinley, *!Viva La Evolución!: Recognizing Unconscious Motive in Title VII*, 9 CORNELL J.L. & PUB. POL'Y 415 (2000); Deana A. Pollard, *Unconscious Bias and Self-Critical Analysis: The Case for a Qualified Evidentiary Equal Employment Opportunity Privilege*, 74 WASH. L. REV. 913 (1999) (arguing for a qualified evidentiary privilege to encourage unconscious-bias testing).

[23]   *See* Krieger, *supra* note 1.

[24]   *Id.* at 1186–1211. Krieger made her claim in light of evidence of three broad themes from social cognition research: "(1) normal cognitive processes automatically trigger stereotyping, (2) stereotypes and biases operate absent an explicit intent to use them, and (3) 'people's access to their own cognitive processes is in fact poor.'" Levinson, *Forgotten Racial Equality, supra* note 1, at 354 (citing Krieger, *supra* note 1, at 1188).

change the focus from "an intent standard (whether an employer intended that race make a difference in an employment decision) to a causation standard (whether race or group status 'made a difference' in the decision)."[25]

Krieger's work, combined with an impressive batch of social cognition studies that emerged in the late 1990's and early 2000's,[26] helped to ignite debate about employment discrimination law, an area in which many scholars have asserted that implicit bias information should be considered in determining employment discrimination.[27] Furthermore, it stimulated discourse in other areas of law, where scholars have often referred to implicit bias as triggering inequities.[28] These projects have sought to understand the way societal actors may unconsciously perpetuate inequality.

Post-2006 scholarship has broadened the discussion of how societal actors may automatically and unintentionally propagate racial bias.[29] Robert

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[25] Levinson, *Forgotten Racial Equality, supra* note 1, at 366 (citing Krieger, *supra* note 1, at 1242).

[26] For a description of many of these studies, see Kang, *supra* note 1; Levinson, *Forgotten Racial Equality, supra* note 1; Antony Page, *Batson's Blind-Spot: Unconscious Stereotyping and the Peremptory Challenge*, 85 B.U. L. REV. 155, 236–57 (2005). *See also* Bargh et al., *supra* note 7; Patricia G. Devine, *Implicit Prejudice and Stereotyping: How Automatic are They? Introduction to the Special Section*, 81 J. PERSONALITY & SOC. PSYCHOL. 757 (2001); Anthony G. Greenwald et al., *Targets of Discrimination: Effects of Race on Responses to Weapons Holders*, 39 J. EXPERIMENTAL SOC. PSYCHOL. 399 (2003); B. Keith Payne, *Prejudice and Perception: The Role of Automatic and Controlled Processes in Misperceiving a Weapon*, 81 J. PERSONALITY & SOC. PSYCHOL. 181 (2001); Laurie A. Rudman, *Social Justice in Our Minds, Homes, and Society: The Nature, Causes, and Consequences of Implicit Bias*, 17 SOC. JUST. RES. 129 (2004).

[27] *See The Structural Turn, supra* note 22; 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) (examining existing proof schemes in light of social cognition research); David L. Faigman et al., Symposium, *A Matter of Fit: The Law of Discrimination and the Science of Implicit Bias*, 59 HASTINGS L.J. 1389 (2008) (focusing on gender discrimination); Hart, *supra* note 22; Christine Jolls & Cass R. Sunstein, *The Law of Implicit Bias*, 94 CAL. L. REV. 969 (2006); Audrey J. Lee, *supra* note 22; McGinley, *supra* note 22; Pollard, *supra* note 22; *see also* Franita Tolson, *The Boundaries of Litigating Unconscious Discrimination: Firm-Based Remedies in Response to a Hostile Judiciary*, 33 DEL. J. CORP. L. 347 (2008) (suggesting that firms should have the burden of reducing unconscious discrimination). *But see* Amy L. Wax, *The Discriminating Mind: Define It, Prove It*, 40 CONN. L. REV. 979 (2008) (arguing that implicit bias research may not warrant changing legal standards).

[28] In the criminal law realm, for example, these projects assert or hypothesize that unconscious bias leads to racial or other disparities in the criminal justice system. *See, e.g.*, Julian A. Cook, Jr. & Mark S. Kende, *Color-Blindness in the Rehnquist Court: Comparing the Court's Treatment of Discrimination Claims by a Black Death Row Inmate and White Voting Rights Plaintiffs*, 13 T.M. COOLEY L. REV. 815 (1996); Sheri Lynn Johnson, Comment, *Unconscious Racism and the Criminal Law*, 73 CORNELL L. REV. 1016, 1016–17 (1988); Cynthia Lee, *The Gay Panic Defense*, 42 U.C. DAVIS L. REV. 471, 479 (2008).

[29] Even scholarship outside of the law has begun to consider the ramifications of implicit bias, such as in medical treatment decisions and public health. For example, a study by Alexander Green and colleagues found that implicit racial bias predicted the medical treatment decisions made by doctors. Alexander R. Greene et al., *Implicit Bias among Physicians and its Prediction of Thrombolysis Decisions for Black and White Patients*, 22 J. GEN. INTERNAL MED. 1231 (2007).

Schwemm, for example, relied on social cognition research to argue that landlords may discriminate unintentionally and suggested that implicit bias in housing discrimination may be more widespread even than implicit bias in employment discrimination.[30] Rigel Oliveri alleged that implicit biases may disproportionately harm illegal immigrants.[31] And Tristin Green and Alexandra Kalev broadened the discussion of implicit bias in employment law by focusing on how implicit bias may affect relational aspects of the employment situation.[32]

Scholarship examining the law's response to implicit bias in society has thus been provocative and influential and continues to develop.

2.   Non-Empirical Work on Implicit Bias in the Legal System

Several commentators have considered the way implicit biases are either facilitated by the law itself or how legal decision-makers may unintentionally propagate these biases. These projects can be distinguished from studies of implicit bias in society because instead of considering how law should react to the implicit biases of societal actors, they consider how the law itself may propagate bias.[33]

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[30]   Robert G. Schwemm, *Why Do Landlords Still Discriminate (And What Can Be Done About It)?*, 40 J. MARSHALL L. REV. 455, 507 (2007).

[31]   *See* Rigel C. Oliveri, *Between a Rock and a Hard Place: Landlords, Latinos, Anti-Illegal Immigrant Ordinances, and Housing Discrimination*, 62 VAND. L. REV. 55 (2009).

[32]   Tristin K. Green & Alexandra Kalev, *Discrimination-Reducing Measures at the Relational Level*, 59 HASTINGS L.J. 1435 (2008) (considering implicit bias on a relational level in the workplace).

[33]   The following projects, many of which focus on racial disparities in the death penalty, recognize the ways in which implicit bias may manifest in legal processes. However, most of them do not specifically connect their hypotheses to legal theories. *See, e.g.*, Lucy Adams, Comment, *Death by Discretion: Who Decides Who Lives and Dies in the United States of America?* 32 AM. J. CRIM. L. 381, 389–90 (2005) (stating that "a white prosecutor may — consciously or subconsciously — perceive a crime to be more 'outrageously or wantonly vile, horrible, or inhuman' if it is alleged to have been committed against a white victim" (quoting GA. CODE ANN. § 17-10-30(b)(7) (1994))); Andrew Elliot Carpenter, Note, Chambers v. Mississippi: *The Hearsay Rule and Racial Evaluations of Credibility*, 8 WASH & LEE RACE & ETHNIC ANCESTRY L. J. 15, 15 (2002) (arguing that unconscious racial bias affects judicial determinations of witness credibility); Scott W. Howe, *The Futile Quest for Racial Neutrality in Capital Selection and the Eighth Amendment Argument for Abolition Based on Unconscious Racial Discrimination*, 45 WM. & MARY L. REV. 2083, 2094–2106 (2004) (considering the extreme deference given to prosecutors); Rory K. Little, *What Federal Prosecutors Really Think: The Puzzle of Statistical Race Disparity Versus Specific Guilt, and the Specter of Timothy McVeigh*, 53 DEPAUL L. REV. 1591, 1599–1600 (2004) (addressing "unconscious race empathy" that white prosecutors may have with white defendants or white victims); Jeffrey J. Pokorak, *Probing the Capital Prosecutor's Perspective: Race of the Discretionary Actors*, 83 CORNELL L. REV. 1811, 1819 (1998) (alluding to unconscious biases produced due to similarities between prosecutors and victims); Yoav Sapir, *Neither Intent nor Impact: A Critique of the Racially Based Selective Prosecution Jurisprudence and a Reform Proposal*, 19 HARV. BLACKLETTER L.J. 127, 140–41 (2003) (proposing that it "is likely that unconscious racism influences a prosecutor even more than it affects others.").

In a comprehensive article that connected lawmaking to the propagation of racial bias, Jerry Kang argued that the Federal Communications Commission's policies encouraging the broadcasting of local news served to increase television viewers' implicit racial biases.[34] In making the connection between local news and increased societal bias, Kang relied on social cognition studies to demonstrate that the media continually reinforces racial biases within the American public.[35] After detailing a plethora of social cognition studies on implicit bias and outlining the ways even seemingly minor racial cues can lead to racial biases,[36] Kang questioned whether the local news' consistent broadcasting of racialized and violent images might have devastating effects.[37] Kang's detailed and thoughtful inquiry forced scholars to confront the notion that well-intentioned laws and policies can unintentionally lead to disastrous results.[38] In doing so, he set the stage for examinations of implicit bias in other areas of law.

Justin Levinson relied on implicit bias research to propose that death qualification, the process of qualifying jurors to sit on capital cases, might unin-

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[34]   *See generally* Kang, *supra* note 1.

[35]   *See id.* at 1449–53 (citing James M. Avery & Mark Peffley, *Race Matters: The Impact of News Coverage of Welfare Reform on Public Opinion, in* RACE AND THE POLITICS OF WELFARE REFORM 131, 136 (Sanford F. Schram et al. eds., 2003); Lori Dorfman & Vincent Schiraldi, *Off Balance: Youth, Race & Crime in the News* 4–5, 7 (2001), *available at* http://www.buildingblocksforyouth.org/media/media.pdf; Robert M. Entman, *Modern Racism and the Images of Blacks in Local Television News,* 7 CRITICAL STUD. MASS COMM. 332, 335 (1990); ROBERT M. ENTMAN & ANDREW ROJECKI, THE BLACK IMAGE IN THE WHITE MIND 49 (2000); Franklin D. Gilliam, Jr. et al., *Crime in Black and White: The Violent, Scary World of Local News,* 1 HARV. INT'L J. PRESS/POL. 6, 7 (1996); Mark Peffley et al., *The Intersection of Race and Crime in Television News Stories: An Experimental Study,* 13 POL. COMM. 309, 315 (1996); Nicholas A. Valentino, *Crime News and the Priming of Racial Attitudes During Evaluations of the President,* 63 PUB. OPINION Q. 293, 301–02 (1999)).

[36]   Kang, *supra* note 1, at 1491–95. For example, Kang described a study by Frank Gilliam and Shanto Iyengar that examined whether showing a Black suspect's mugshot photograph (compared both to a White suspect's mugshot and to no mugshot at all) in a local news broadcast affected participants' subsequent judgments of punishment. As Kang explained, "[h]aving seen the Black suspect, White participants showed 6% more support for punitive remedies than did the control group, which saw no crime story. When participants were instead exposed to the White suspect, their support for punitive remedies increased by only 1%, which was not statistically significant." *Id.* at 1492 (citations omitted).

[37]   Kang asked: "[i]f subliminal flashes of Black male faces can raise our frustration . . . would it be surprising that consciously received messages couched in violent visual context have impact, too?" *Id.* at 1551. In referencing subliminal flashes and frustration, Kang was referring to a study by John Bargh and his colleagues. *Id.* (citing John A. Bargh et al., *Automaticity of Social Behavior: Direct Effects of Trait Construct and Stereotype Activation on Action,* 71 J. PERSONALITY & SOC. PSYCHOL. 230, 239 (1996)). Bargh and colleagues' study found that subliminally flashing images of Black male faces during a computerized task heightened participants' visible frustrations after participants subsequently were led to believe that the study's computer had crashed and that the experiment would have to be re-started.

[38]   *See also* Reshma M. Saujani, *"The Implicit Association Test:" A Measure of Unconscious Racism in Legislative Decision-Making,* 8 MICH. J. RACE & L. 395, 413–15 (2003) (also focusing on the potential implicit bias of policy-making).

tentionally trigger implicit racial biases.[39] The hypothesis, which Levinson termed Death Penalty Priming Hypothesis, proposes that the (supposedly race neutral) process of death qualifying jurors actually elicits racial stereotypes in the final jury panel.[40] According to Levinson,

> when jury *venire* members are 'death qualified,' the supposedly race-neutral line of questioning acts as an indirect prime that triggers stereotypes of African Americans, including criminality, dangerousness, and guilt. These largely implicit stereotypes, which most Americans likely possess, become activated during the death qualification process, and subsequently affect the way jurors process information, deliberate, and render verdicts when African-American defendants are on trial.[41]

Death Penalty Priming Hypothesis, similar to Kang's proposal relating to local news, suggests that commentators should look more critically at the legal system and its processes.

Like Kang and Levinson, other scholars have looked within the legal system to discover how implicit biases may manifest.[42] Unlike Kang and Levinson, however, most of these scholars have focused not on legal policies or procedures that result in bias, but on the effect of implicit bias on attorneys, judges, jurors, and even police officers. For example, Antony Page relied on social cognition research in proposing that prosecutors and defense attorneys unintentionally rely on implicit racial biases when using peremptory challenges.[43] Connecting this hypothesis to Supreme Court jurisprudence, Page critiqued *Batson v. Kentucky*'s[44] three-step procedure for attacking peremptory

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[39] Levinson, *The Complicitous Mind, supra* note 2, at 619–32.

[40] *Id.* Levinson's second hypothesis considered in the same article, Racial Bias Masking Hypothesis, focuses not on how the legal system triggers biases, but on how racially biased legal treatment of defendants may evade scientific detection. This hypothesis posits that sophisticated studies examining racial disparities in criminal convictions and sentencing may actually cover up such racial disparities because those studies rely on already biased case facts. It is worth noting that Racial Bias Masking Hypothesis, which specifically focused on studies of race in the capital setting, might also apply to studies of race in the non-capital setting. *Id.* at 632–43.

[41] *Id.* at 619 (citation omitted). Levinson did not test these hypotheses empirically, and urged "caution in relying upon the accuracy of these hypotheses until they have been explored more systematically." *Id.* at 644.

[42] A few scholars have begun expanding on the ways in which the law itself may lead to bias. *See* Dale Larson, *Unconsciously Regarded as Disabled: Implicit Bias and the Regarded-As Prong of the Americans with Disabilities Act*, 56 UCLA L. REV. 451 (2008); Lee, *supra* note 28.

[43] Page, *supra* note 26, at 236–57.

[44] Batson v. Kentucky, 476 U.S. 79 (1986). In *Batson*, a case in which a Black man was on trial for burglary and receipt of stolen property:

> the prosecutor used his peremptory challenges to construct an all-white jury by striking all four of the black people on the venire. The defense counsel sought to discharge the jury as violative of Batson's Sixth and Fourteenth

challenges[45] and concluded that the *Batson* test fails to protect against the harmful effects of implicit bias.[46]

In a project that focused more broadly on the criminal justice system, Alex Geisinger critiqued the role of implicit bias in police racial profiling.[47] Claiming that profiling necessarily includes automatic and implicit cognitive processes, Geisinger argued that racial stereotypes necessarily become introduced into police profiling.[48] According to Geisinger, the likelihood and power of racial stereotypes in profiling means that "the use of racial information in the process of policing likely never will be defensible."[49]

These studies demonstrate the breadth of projects examining implicit bias in the legal system and also highlight the many areas that have yet to be investigated. Although most of the scholarship examining implicit bias in the legal system has not employed empirical methods to test their hypotheses, these works set the stage for future collaborations.

> Amendment rights to a jury 'drawn from a cross section of the community' and guarantees to equal protection of the laws. . . . [T]he *Batson* Court held that 'a defendant may establish a prima facie case of purposeful discrimination in selection of the petit jury solely on evidence concerning the . . . [use] of peremptory challenges at the defendant's trial.'. . . [T]he Court recognized that it is governmental racial discrimination when black citizens are excluded from jury service.

Camille A. Nelson, *Batson, O.J., and Snyder: Lessons from an Intersecting Trilogy*, 93 IOWA L. REV. 1687, 1693–97.

[45]   Page outlined the *Batson* standard:

> In step one, the defendant must raise an inference that the prosecutor used a preemptory challenge to exclude the person from the jury on account of her race. In step two, the trial court judge, in order to determine whether the peremptory challenge was exercised unconstitutionally, asks the prosecutor to supply a race-neutral reason. If the prosecutor meets this burden, in step three the judge decides whether the prosecutor exercised the peremptory challenge with the requisite purposeful discrimination.

Page, *supra* note 26, at 158 (citing *Batson*, 476 U.S. at 93–98).

[46]   *Id.* at 245 (suggesting that the best option is to eliminate peremptory challenges). Providing empirical support for Page's hypothesis, Samuel Sommers and Michael Norton conducted an empirical study that tested whether mock lawyers selected jurors using race as a determinant. Samuel R. Sommers & Michael I. Norton, *Race-Based Judgments, Race-Neutral Justifications: Experimental Examination of Peremptory Use and the* Batson *Challenge Procedure*, 31 LAW & HUM. BEHAV. 261, 269 (2007). Keeping the profiles of the potential jurors identical in all other respects, they then manipulated the racial identity of the potential jurors. They found that the racial identity of the prospective jurors significantly affected the participants' jury selections, and also found that participants gave race-neutral explanations for their jury selections.

[47]   Alex Geisinger, *Rethinking Profiling: A Cognitive Model of Bias and Its Legal Implications*, 86 OR. L. REV. 657, 670–72 (2007).

[48]   *Id.*

[49]   *Id.* at 672.

3.   Empirical Legal Scholarship

A few legal scholars, including the authors of this Article, have empirically examined implicit bias related hypotheses. Although these studies have been rare, they demonstrate the potential for testing directly the ways implicit racial bias manifests in the legal system. In one such study of legal decision-making, Levinson proposed that judges and jurors may misremember case facts in racially biased ways.[50] In forming this hypothesis, Levinson relied on a variety of social cognition studies that demonstrated: first, that people's memories are quite faulty; second, that stereotypes are a key ingredient in the way people remember information; and third, that people have little ability to identify their own memory errors.[51] In the empirical component of the project, Levinson presented stories of a fight to study participants, distracted them briefly, and then tested how well they recalled elements of the stories.[52] One third of the participants read about an African American actor, one third of the participants read about a Native Hawaiian actor, and one third of the participants read about a Caucasian actor.[53] Results indicated that participants who read about an African American actor remembered his aggressive actions better than participants who read about the other actors.[54] In addition, Levinson found that participants in some instances possessed false memories of the African American actor acting aggressively.[55]

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[50]   Levinson, *Forgotten Racial Equality, supra* note 1, at 345. Levinson also conducted another empirical study that blended social cognition with cultural psychology. In that study, Levinson proposed that jury duty acts as a cognitive prime that can introduce bias into decision-making. 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) [hereinafter Levinson, *Suppressing Community Values*]. Because of the complex sets of both implicit and explicit knowledge structures related to law that most Americans possess, Levinson proposed that when citizens are called for jury duty, these knowledge sets (which might include biases and other negative stereotypes) are triggered. *Id.* at 1065–69. Levinson conducted an empirical study where he asked participants to make various judgments in several hypothetical stories. Half of the participants were told that they were jurors in the case, and the other half were told they were reading facts from a newspaper story. *Id.* at 1075. Levinson found that the mock-jury participants gave significantly different responses on several measures, compared to the other participants, even for measures (such as judgments of an actor's intentionality) for which lay judgments should have been similar to legal judgments. *Id.* at 1075–78. Interestingly, the direction of the results indicated that participants in the mock-juror condition treated defendants more harshly than the participants in the lay judgment condition. *Id.* Other results indicated, although less clearly, that perhaps these decisions worked to the detriment of out-group members. *Id.*

[51]   Levinson, *Forgotten Racial Equality, supra* note 1, at 373–81.

[52]   *Id.* at 390–96.

[53]   *Id.* at 394.

[54]   *Id.* at 398–401.

[55]   *Id.* at 400–02. Participants who read about a European American or Native Hawaiian actor often did not display these false memories. Some of these false memories yielded statistically significant results. Although the results of the empirical study do not prove conclusively that

A few research teams have become particularly interested in running studies using a specific social cognition measure, the Implicit Association Test (IAT). The IAT is typically administered as a computerized, timed test that "pairs an attitude object (such as a racial group) with an evaluative dimension (good or bad) and tests how response accuracy and speed indicate implicit and automatic attitudes and stereotypes."[56] As psychologists Nilanjana Dasgupta and Anthony Greenwald explain, "[w]hen highly associated targets and attributes share the same response key, participants tend to classify them quickly and easily, whereas when weakly associated targets and attributes share the same response key, participants tend to classify them more slowly and with greater difficulty."[57]   Results of race and skin-tone IATs have consistently shown implicit associations between Black (or dark skin) and Bad, compared to White (or light skin) and Good.[58] Thus, as Jeffrey Rachlinski and his colleagues summarize, "[t]he prevailing wisdom is that IAT scores reveal implicit or un-conscious bias."[59]

Most legal scholars have discussed the IAT simply as one measure of implicit racial bias, albeit a captivating measure.[60] However, a few research teams since 2004 have employed the measure to test various hypotheses empiri-cally.[61] Theodore Eisenberg and Sheri Lynn Johnson were interested in whether

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judges and jurors misremember information in racially biased ways, they lend support to that contention and set the stage for future investigations.

[56]   *Id.* at 355.

[57]   Nilanjana Dasgupta & Anthony G. Greenwald, *On the Malleability of Automatic Attitudes: Combating Automatic Prejudice with Images of Admired and Disliked Individuals*, 81 J. PERSONALITY & SOC. PSYCHOL. 800, 803 (2001).

[58]   Brian Nosek et al., *Pervasiveness and Correlates of Implicit Attitudes and Stereotypes*, 18 EUR. REV. SOC. PSYCHOL. 36 (2008).

[59]   *Trial Judges, supra* note 4, at 1201 (citing Samuel R. Bagenstos, *Implicit Bias, "Science," and Antidiscrimination Law*, 1 HARV. L & SOC. POL'Y REV. 477 (2007) [*hereinafter Implicit Bias, "Science" and Antidiscrimination Law*]).

[60]   *See, e.g.*, Saujani, *supra* note 38; *see also* Kang, *supra* note 1; Levinson, *Forgotten Racial Equality, supra* note 1. There is considerable debate about whether legal reforms should be based on the IAT. *See Implicit Bias, "Science" and Antidiscrimination Law, supra* note 59; Adam Benforado & Jon Hanson, *Legal Academic Backlash: The Response of Legal Theorists to Situationist Insights*, 57 EMORY L. J. 1087, 1135–43 (2008); Gregory Mitchell & Philip E. Tetlock, *Facts Do Matter: A Reply to Bagenstos*, 37 HOFSTRA L. REV. 737 (2009); Gregory Mitchell & Philip E. Tetlock, *Antidiscrimination Law and the Perils of Mindreading*, 67 OHIO ST. L.J. 1023, 1028, 1032–33 (2006); Wax, *supra* note 27.

[61]   Other than the studies discussed below, two studies, one unpublished, and another published in German, have tested whether the IAT was able to predict legal decisions in mock cases. *See* Arnd Florack et al., *Der Einfluss Wahrgenommener Bedrohung auf die NutzungAutomatischer Assoziationen bei der Personenbeurteilung* [*The Impact of Perceived Threat on the Use of Automatic Associations in Person Judgments*], 32 ZEITSCHRIFT FÜR SOCZIALPSCYHOLOGIE 249 (2001)); *Trial Judges, supra* note 4, at 1204 (citing ROBERT LIVINGSTON, WHEN MOTIVATION ISN'T ENOUGH: EVIDENCE OF UNINTENTIONAL DELIBERATIVE DISCRIMINATION UNDER CONDITIONS OF RESPONSE AMBIGUITY 9–10 (2002) (unpublished manuscript, on file with the Notre Dame Law Review)).

implicit racial biases played a role in capital cases. [62] They conducted an experiment in which capital defense attorneys, a group who might be expected to resist racial biases, took a Black-White/Good-Bad IAT.[63] Eisenberg and Johnson found that the majority of the study participants displayed implicit racial biases and noted that capital defense attorneys appeared to display the same racial biases as the rest of the population.[64] Although they found compelling results consistent with social science data on the IAT that raise concern particularly in the capital context, Eisenberg and Johnson did not test whether the IAT predicted actual behavior or decision-making in the legal context.

    Jeffrey Rachlinski later teamed up with Johnson and others to test whether a Black/White IAT could predict racial bias in judicial decisions.[65] The researchers were interested not just in what results an IAT might yield when given to judges, but also whether judges' IAT performance affects their decisions.[66] Rachlinski and his colleagues took advantage of a unique empirical opportunity. Recruiting judges from several judicial educational conferences,[67] the

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

[63]   *Id.* at 1544. The researchers also tested a group of first year law students, and found similar results in both samples. Unlike many of the computerized IAT's discussed in legal and popular literature, Eisenberg and Johnson used a paper and pencil version of the IAT. *Id.* at 1543. Eisenberg and Johnson explained:

> In the paper and pencil version, subjects are faced with a column of words and faces, which he or she is asked to categorize "as quickly as possible without making too many mistakes" in twenty seconds. . . . [T]he subjects are instructed to go down the column checking the items that are "white or good" on the left of the item and items that are "black or bad" on the right of the item. After permitting questions, the subjects are told that when they turn the next page, they will be asked to check white faces or good on the left, and black faces or bad on the right, completing as many as possible in the allotted time . . . . After completing this task, the subjects are asked to turn the page, and the new pairing of black with good and white with bad is explained. Subjects then complete the same task with the new pairing . . . . The number of items correctly completed on each test is then counted; it is not the number of items a particular subject can complete that is of significance, but the difference in the number of items he or she completes when white is paired with good and black with bad, as contrasted with the number completed when black is paired with good and white with bad.

Id. at 1543–45.

[64]   *Id.* at 1553.

[65]   *See generally Trial Judges, supra* note 4.

[66]   *Id.* at 1211–21.

[67]   This recruitment methodology is rare in empirical legal studies and provides unique information about one of the most important groups of legal system participants. For studies employing a similar participant recruitment methodology, *see id.* at 1205 (citing Chris Guthrie et al., *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 13 (2007); Chris Guthrie et al., *Inside the Judicial Mind*, 86 CORNELL L. REV 777, 814–15 (2001); Jeffrey J. Rachlinski et al., *Inside the Bankruptcy Judge's Mind*, 86 B.U. L. REV. 1227, 1256–59 (2006); Andrew J.

researchers ran White-Black/Good-Bad IAT's and asked the judges to make decisions in a series of short mock cases.[68] Results of the study first showed that the vast majority of the Caucasian judge participants exhibited an implicit preference for White over Black.[69] Furthermore, the results showed that, in two of the three mock cases (those in which race was primed subliminally), the Race IAT scores predicted the judges' decisions.[70] Yet, the results also demonstrated that in a mock case where the defendant's race was specifically identified, the Race IAT did not predict decisions.[71] The researchers claimed that this result indicated that motivated judges may sometimes be able to resist the effects of implicit bias on judicial decisions.[72]

Levinson, Huajian Cai, and Danielle Young also were interested in the IAT in the legal context.[73] Like Rachlinski and colleagues, Levinson and his colleagues were particularly interested in the predictive validity of the IAT in the legal setting. Unlike other projects, however, which relied exclusively upon existing IAT measures, Levinson and his colleagues designed their own IAT. In addition to running an IAT similar to those run by previous legal scholars, they created a Black/White Guilty/Not Guilty IAT and tested it empirically. Results of the study showed first that participants held a strong implicit association between Black and Guilty compared to White and Guilty, raising concerns about implicit racial bias and the presumption of innocence.[74] Next, specifically examining predictive validity, they found that the IAT scores predicted partici-

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Wistrich et al., *Can Judges Ignore Inadmissible Information? The Difficulty of Deliberately Disregarding*, 153 U. PA. L. REV. 1251, 1323–24 (2005)).

[68]   *Trial Judges*, *supra* note 4, at 1209. In two of the three vignettes used by Rachlinski and his colleagues, the race of the defendant was not indicated. However, using a priming technique similar to that used by Sandra Graham and Brian Lowery in Sandra Graham & Brian Lowery, *Priming Unconscious Racial Stereotypes about Adolescent Offenders*, 28 LAW & HUM. BEHAV. 483 (2004), the researchers primed half of the participants subliminally with words related to African Americans. The researchers treated this priming technique, in which participants were primed with Black or neutral words (not White words), as being similar to a subliminal racial identification of the defendant.

[69]   *Trial Judges*, *supra* note 4, at 1210. 87.1% of the Caucasian judges exhibited this preference. *Id.*

[70]   This finding carried marginal statistical significance. Specifically, Rachlinski and his colleagues found that IAT score "had a marginally significant influence on how the [racial] prime influenced their judgment. Judges who exhibited a white preference on the IAT gave harsher sentences to defendants if they had been primed with black-associated words rather than neutral words . . . ." *Id.* at 1214–15.

[71]   *Id.* at 1218.

[72]   *Id.* at 1223.

[73]   Justin D. Levinson, Huajian Cai & Danielle Young, *Guilty by Implicit Bias: The Guilty-Not Guilty Implicit Association Test*, 8 OHIO ST. J. CRIM. L. (forthcoming 2010). This IAT study was initially conducted as a companion study to the empirical project described in this Article, but due to the unique nature of the IAT study and the study's empirical results, it is considered in a separate article.

[74]   *Id.* at 17.

pants' evidence judgments.[75] Participants who implicitly associated Black and Guilty were more likely to make harsher judgments of ambiguous evidence.[76] Thus, not only did the study challenge the supposed racial equality underlying the law's presumption of innocence, but also it connected this racial bias to judgments of trial evidence.

Legal scholarship has thus evolved considerably since Lawrence's introduction to implicit racial bias and the law. Yet there are still only a few empirical studies that explore the role of implicit racial bias in the law. In Section IV, we detail the empirical study we conducted. Next, however, we review social science work broadly investigating the role of race in legal decision-making.

B.   *Mock-Jury Research on Racial Bias*

Similar to legal scholars discussing implicit bias, social scientists have yet to examine fully how implicit biases may affect the way jurors evaluate evidence. However, social scientists have also been long interested in understanding racial disparities in the criminal justice system. They have thus conducted empirical investigations designed to test whether jurors decide cases differently based upon the defendant's race.[77] Although they have not tested the role of implicit bias in decision-making, these studies have laid the foundation for understanding how race might affect the way jurors think and make decisions.[78] We therefore briefly describe two large-scale projects that reviewed, summarized, and evaluated dozens of studies that have attempted to investigate the role of the defendant's race in mock-jury decisions.

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[75]   *Id.* at 18. These evidence judgments were the ones described in this Article.

[76]   *Id.* at 19.

[77]   These studies have tended not to focus on jurors' cognitive processes, such as memory and evidence evaluation, instead focusing on outcome measures such as guilt and punishment. *See* 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). This does not mean, however, that all studies ignore the role of evidence in decision-making. James Johnson, for example, found that mock jurors were more likely to disregard instructions to ignore evidence when that evidence tended to indicate the guilt of a Black defendant (compared to a White defendant). James D. Johnson et al., *Justice is Still Not Colorblind: Differential Racial Effects of Exposure to Inadmissible Evidence*, 21 PERSONALITY & SOC. PSYCHOL. BULL. 893 (1995).

[78]   *See* Samuel R. Sommers & Phoebe C. Ellsworth, *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). Considering the amount of discussion in legal scholarship about race and decision-making, Sommers and Ellsworth found the lack of social science studies "surprising." *Id.* at 1005. *See also* Denis C. Ugwuegbu, *Racial and Evidential Factors in Juror Attribution of Legal Responsibility*, 15 J. EXPERIMENTAL SOC. PSYCHOL. 133 (1979) (varying the strength of the evidence provided, and finding that White mock jurors required less evidence to convict a Black defendant).

In 2003, Samuel Sommers and Phoebe Ellsworth comprehensively reviewed a variety of studies that tested the role of race in mock-jury decisions.[79] The researchers found mixed results — some studies purported to find racial bias against African American defendants,[80] and other studies purported to find either no bias or a pro-African American bias.[81]   Summarizing the results of their review, Sommers and Ellsworth stated:

> [N]o consensus has been reached regarding the influence of a defendant's race on White mock jurors. Some studies have suggested that White jurors are biased against Black defendants, others have yielded no evidence of bias, and a few researchers have found that White jurors are biased against White defendants. But substantial evidence exists to support the conclusion of many legal scholars that, at least under some conditions,

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[79]   Sommers & Ellsworth, *supra* note 78. Most of the studies Sommers and Ellsworth reviewed primarily measured outcome variables, such as guilty/not guilty verdicts and length of sentence. This methodological decision to focus on verdicts and punishment has both advantages and disadvantages. The primary advantage is obvious: it presumably measures the most important legal outcome measures. The disadvantages are somewhat less obvious: first, focusing on guilt and punishment judgments may overlook the way implicit racial bias truly functions. Measuring verdicts and punishment judgments without also measuring cognitive processes might cover up the most meaningful part of the jury decision-making story. And second, testing verdicts and punishment judgments in a mock trial setting may actually heighten differences between decision-making in real trials (with real consequences) and mock trials (with no consequences). For earlier comprehensive discussions of race and decision-making, see Sheri Lynn Johnson, *Black Innocence and the White Jury*, 83 MICH. L. REV. 1611 (1985); Nancy J. King, *Postconviction Review of Jury Discrimination: Measuring the Effects of Juror Race on Jury Decisions*, 92 MICH. L. REV. 63 (1993).

[80]   For example, Sommers and Ellsworth discussed a study by Klein and Creech that showed participants a short video summary of a rape trial. Sommers & Ellsworth, *supra* note 78, at 1006 (citing Kitty Klein & Blanche Creech, *Race, Rape, and Bias: Distortion of Prior Odds and Meaning Changes*, 3 BASIC & APPLIED SOC. PSYCHOL. 21 (1982)). As Sommers and Ellsworth describe the study, some participants watched a video depicting a Black defendant and others watched a video depicting a White defendant. The researchers found that participants who saw the film depicting a Black defendant were "more likely to believe he was guilty than jurors who saw the same trial video with a White defendant." *Id.*

[81]   *Id.* at 1008 (citing Ronald L. Poulson, *Mock Juror Attribution of Criminal Responsibility: Effects of Race and the Guilty But Mentally Ill (GBMI) Verdict Option*, 20 J. APPLIED SOC. PSYCHOL. 1596 (1990)). Poulson presented participants with an audio summary of a murder trial. Watching an evidence slideshow, half of the participants saw a Black defendant and the other half saw a White defendant. Paulson found that White participants were more likely to acquit Black defendants by reason of insanity compared to White defendants. Sommers and Ellsworth point out that these results are difficult to generalize to other scenarios, because "[t]o the extent that White jurors view mental illness or 'insanity' as more consistent with their stereotype of Black versus White defendants, Poulson's finding of same-race bias becomes less surprising." *Id.* at 1009.

White jurors exhibit racial bias in their verdicts and sentencing decisions.[82]

A 2005 meta-analysis conducted by Tara Mitchell and her colleagues followed up Sommers and Ellsworth's discussion by quantitatively testing race-effects on mock-jurors.[83] Aggregating and analyzing verdict data from thirty-four studies and 7397 participants, and sentencing data from sixteen studies and 3141 participants, the researchers analyzed whether mock-jurors across these studies demonstrated racial bias in decision-making. The researchers found small but significant differences in race effects on both verdicts and sentences, indicating that mock jurors were biased in favor of defendants of their own race.[84] However, this significant effect was quite small, and the statistical significance disappeared if the experimenters eliminated certain types of studies.[85]

Sommers and Ellsworth's review and Mitchell and her colleagues' meta-analysis demonstrate that although scholars have continued pursuing the hypothesis that jurors harbor racial biases in decision-making, more research, informed by implicit social cognition, is needed. Existing research often fails to give a theoretical explanation for how and why these biases might occur, and thus far has often assumed that the bias is conscious and intentional.[86] In addition, most research to date, including several meta-analyses on the topic (leading

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[82]   *Id.* at 1010. Sommers and Ellsworth relied on social cognition theory to propose one potential explanation for the conflicting results they discussed. Specifically, they proposed that "Whites are less likely to demonstrate racial bias when concerns about prejudice are salient." *Id.* at 1012–13 (citing Samuel L. Gaertner & John F. Dovidio, *The Aversive Form of Racism, in* PREJUDICE, DISCRIMINATION, AND RACISM 61, 69 (John F. Dovidio & Samuel L. Gaertner eds., 1986)). Sommers and Ellsworth also discussed a study they conducted that supported that hypothesis. In the study, participants in the race-salient condition read a story of a crime that included the following sentence: "You know better than to talk that way about a White (or Black) man in front of his friends." *Id.* at 1015 (citing Samuel R. Sommers & Phoebe C. Ellsworth, *Race in the Courtroom: Perceptions of Guilt and Dispositional Attributions*, 26 PERSONALITY & SOC. PSYCHOL. BULL. 1367, 1373 (2000)). Participants in the non-race-salient condition read the same sentence, except there was no reference to race at all ("You know better than to talk about a man that way . . . ."). *Id.* When race was not salient, White mock jurors gave higher guilt ratings and punishment judgments to Black defendants. *Id.* But when race was made salient, there was no racial bias. *Id.* Priming, for example, which is frequently subliminal and not even noticed by the participant, would presumably not trigger a desire to avoid bias.

[83]   *See* Mitchell et al., *supra* note 77.

[84]   *Id.* at 627. Mitchell and her colleagues looked at how study participants made decisions when the mock-defendant was of a different racial group. This methodology thus was not limited to examining race effects on Black defendants. *Id.* at 624–25.

[85]   For example, the researchers found that studies using dichotomous (guilty/not guilty) variables did not have the same race effects as studies using continuous scale variables (e.g. on a scale of 1–10, how guilty is the defendant). *Id.* at 630. The researchers also found that community samples displayed greater race-based sentencing bias than college student samples. *Id.* at 631.

[86]   Sommers and Ellsworth note this assumption and briefly discuss social cognition literature. Sommers & Ellsworth, *supra* note 78, at 1011–12.

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up to and including Mitchell and her colleagues' study),[87] demonstrates that although quite a bit of research has attempted to test race effects on guilty and not-guilty verdicts, little research has looked at race effects in the way jurors evaluate evidence. Therefore, the hypothesis that racial cues lead to biased evaluations of trial evidence has yet to be fully examined. The next section thus sets the stage for our empirical test of Biased Evidence Hypothesis by explaining the ways that simple racial cues can activate powerful racial stereotypes.

III. ACTIVATING POWERFUL RACIAL STEREOTYPES

Social science research on implicit bias has opened up new doors for investigating how implicit bias affects jurors.[88] Of the numerous ways in which social cognition researchers have found that people harbor implicit biases,[89] research on priming is particularly relevant in considering how racial stereotypes might affect the way jurors evaluate evidence. Priming describes "the incidental activation of knowledge structures, such as trait concepts and

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[87] Mitchell et al., *supra* note 77 (citing Ronald Mazzella & Alan Feingold, *The Effects of Physical Attractiveness, Race, Socioeconomic Status, and Gender of Defendant and Victims on Judgments of Mock Jurors: A Meta-Analysis*, 24 J. APPLIED SOC. PSYCHOL. 1315 (1994)); Laura T. Sweeney & Craig Haney, *The Influence of Race on Sentencing: A Meta-analytic Review of Experimental Studies*, 10 BEHAV. SCI. & THE LAW 179 (1992).

[88] *See, e.g.*, Levinson, *Forgotten Racial Equality*, *supra* note 1.

[89] For example, research demonstrates that people automatically associate African Americans and guns. *See* Payne, *supra* note 26, at 185–86 (2001). Related studies include "shooter bias" studies, which test how fast video game participants can "shoot" armed perpetrators and refrain from shooting unarmed innocents. These studies show that people are faster to shoot dark-skinned perpetrators than light-skinned perpetrators, but are faster to hit a "safety" button when seeing light-skinned innocents compared to dark-skinned innocents. *See* Joshua Correll et al., *Event-Related Potentials and The Decision to Shoot: The Role of Threat Perception and Cognitive Control*, 42 J. EXPERIMENTAL SOC. PSYCHOL. 120, 122 (2006); Joshua Correll et al., *The Police Officer's Dilemma: Using Ethnicity to Disambiguate Potentially Threatening Individuals*, 83 J. PERSONALITY & SOC. PSYCHOL. 1314, 1321 (2002).

Research also demonstrates that people hold strong implicit associations between African Americans and negative attitudes and stereotypes. *See* Anthony Greenwald et al., *Measuring Individual Differences in Implicit Cognition: The Implicit Association Test*, 74 J. PERSONALITY & SOC. PSYCHOL. 1464, 1478 (1998) [hereinafter *Measuring Individual Differences*]; Anthony Greenwald & Mahzarin Banaji, *Implicit Social Cognition: Attitudes, Self-Esteem, and Stereotypes*, 102 PSYCHOL. REV. 4 (1995); Brian Nosek et al., *Harvesting Implicit Group Attitudes and Beliefs from a Demonstration Website*, 6 GROUP DYNAMICS 101, 102 (2002)).

Finally, research demonstrates that racial stereotypes can be activated in milliseconds and can affect people's judgments and actions. *See* Patricia G. Devine, *Stereotypes and Prejudice: Their Automatic and Controlled Components*, 56 J. PERSONALITY & SOC. PSYCHOL. 5 (1989) [hereinafter *Stereotypes and Prejudice*]; Payne, *supra* note 26. *See generally* Anthony G. Greenwald & Linda Hamilton Krieger, *Implicit Bias: Scientific Foundations*, 94 CAL. L. REV. 945 (2006); Kang, *supra* note 1 (explaining a variety of social science research on implicit attitudes and race); Levinson, *The Complicitous Mind*, *supra* note 2.

stereotypes, by the current situational context."[90] Priming research demonstrates first, that stereotypes are activated easily, automatically, and often unconsciously, and second, that once people have been primed, it affects the way they make decisions in racially stereotyped ways.[91] In light of this research, and considering the various ways racial stereotypes might become elicited in a criminal trial, one can hypothesize that jurors may unintentionally evaluate trial evidence in racially biased ways.

This section explains social science research on priming, with the particular purpose of considering whether exposing jurors to simple racial cues (such as showing them a security camera photo of a dark-skinned perpetrator) can incorporate stereotypes into the way they evaluate ambiguous trial evidence.

A.   *Racial Stereotypes are Primed Easily*

In order to investigate the hypothesis that jurors' racial stereotypes can be primed easily during a trial, it is important to examine first how stereotypes are primed. Research confirms that racial stereotypes can be activated quickly and often without a person's conscious awareness.[92] Keith Payne, for example, hypothesized that showing participants a photograph of a Black face for a mere 200 milliseconds could activate racial stereotypes associated with African Americans.[93] Payne quickly flashed photos of Black or White faces on a screen,

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[90]   Bargh et al., *supra* note 7, at 230. As Levinson has described, "priming studies show how causing someone to think about a particular domain can trigger associative networks related to that domain." Levinson, *The Complicitous Mind, supra* note 2, at 608.

[91]   In the context of jury decision-making, priming may be relevant in a variety of ways. *See* Levinson, *The Complicitous Mind, supra* note 2 (introducing Death Penalty Priming Hypothesis, which posits that the supposedly race-neutral death qualification of jurors can act to automatically trigger racial stereotypes in capital cases); Levinson, *Suppressing Community Values, supra* note 50 (arguing that simply placing citizens on juries primes them to think in ways that might be concerning). One particularly concerning possibility is that jurors may be primed with racial cues during a trial and that these cues may activate a broad range of racial stereotypes relating to the crime. There are a number of ways that jurors might be primed during a trial. For example, jurors might be primed by the race of the defendant, a piece of evidence, a witness, the victim, or co-defendants. These activated stereotypes may then influence the way jurors evaluate trial evidence and make decisions.

[92]   *See Stereotypes and Prejudice, supra* note 89, at 8 (citing John A. Bargh & Paula Pietromonaco, *Automatic Information Processing and Social Perception: The Influence of Trait Information Presented Outside of Conscious Awareness on Impression Formation*, 43 J. PERSONALITY & SOC. PSYCHOL. 437 (1982)); Levinson, *The Complicitous Mind, supra* note 2, at 606–08. According to Devine, Bargh and Pietromonaco's study showed that "even when subjects were unaware of the content of the primes, priming increased the likelihood that the primed category was used to interpret subsequently presented ambiguous category related information." *Stereotypes and Prejudice, supra* note 89, at 8.

[93]   *See* Payne, *supra* note 26, at 184–85. Much of the remaining language of this paragraph, including citations, is taken more or less verbatim from an earlier work. *See* Levinson, *The Complicitous Mind, supra* note 2, at 607.

and then immediately displayed images of guns or tools.[94] Participants were told to identify the guns and tools as quickly as possible.[95] Results of the study indicated that when participants saw photos of Black faces immediately before photos of guns, they were significantly faster at identifying the guns than when they saw photos of White faces before photos of guns.[96] Payne's study shows that racial stereotypes can be elicited automatically through visual stimuli in a number of milliseconds, and that these stereotypes can affect the speed and accuracy of meaningful object classification tasks.

Other studies employing different priming techniques confirm that racial stereotypes can be activated easily. In a study that used music to prime participants, Laurie Rudman and Matthew Lee had study participants listen to either violent rap or contemporary pop music songs for approximately thirteen minutes.[97] The researchers then examined whether the music primed participants' implicit and explicit racial stereotypes[98] and found that participants who listened to the rap music songs exhibited greater implicit stereotypes[99] than participants who listened to the pop tunes.[100] The researchers also found that the stereotype-music prime activated participants' stereotypes irrespective of the participants' self-reported prejudice levels, indicating that the stereotype networks elicited by priming often operate implicitly and without people's endorsement or even awareness.[101] This study illustrates a basic principle underlying priming: simple primes that implicate racial stereotypes (such as a clip of violent rap music) can automatically activate a vast network of associated implicit racial stereotypes. As we will discuss, it should not be surprising then if seeing a security camera photograph of a dark-skinned perpetrator automatically

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[94] *See* Payne, *supra* note 26, at 184–85.

[95] *Id.* The objects consisted of guns and non-gun objects (the non-gun objects were hand tools, such as a socket wrench and an electric drill). Payne also told participants that the quickly flashing photographs of faces, which appeared long enough that participants might notice them generally, but short enough so that they would not recognize them, only served to signal the participant that a photograph of an object was about to appear. *See id.*

[96] *Id.* at 185. Similarly, when participants saw photos of White faces immediately before photos of tools, they were significantly faster at identifying the tools than when they saw photos of Black faces before photos of tools.

[97] *See* Laurie A. Rudman & Matthew R. Lee, *Implicit and Explicit Consequences of Exposure to Violent and Misogynous Rap Music*, 4 GROUP PROCESSES & INTERGROUP RELATIONS 133 (2002). Participants were led to believe that they were participating in a marketing study.

[98] *Id.* at 138–39.

[99] The researchers used a stereotype IAT test to measure stereotype activation. This IAT tests how quickly people associate Black men and negative attributes, like "hostile" and "criminal." *Id.* *See supra* notes 56–59 and accompanying text for a detailed explanation of the IAT test.

[100] The contemporary pop tunes were sung by both White and Black artists. Note that the stereotype IAT was administered after participants believed that the music study had ended. Participants were told that they were taking a pilot test of a separate study. *Id.* at 136.

[101] *Id.* at 142.

activates a network of racial stereotypes.[102] Research on priming thus confirms that racial stereotypes can become activated quickly and easily. We must next investigate the effects of activating these implicit racial stereotypes.

B.   Primed Racial Stereotypes Affect Decision-Making

In the courtroom, it is important to consider not only whether elements of a trial can prime jurors' racial stereotypes, but also whether the priming matters. After all, if the prime has no influence on decision-making, then the priming phenomenon would not be particularly concerning. Research has confirmed, however, that priming can automatically affect a broad range of decisions and behaviors, a finding that supports the hypothesis that priming matters in jury decision-making.

In one well-known study, Patricia Devine found that priming stereotypes of African Americans affected the way people judged ambiguous behaviors involving African American actors.[103] Devine primed participants by flashing words such as "poor," "athletic," and "Black" so quickly that participants saw them but did not consciously recognize their content.[104] After priming the participants, Devine asked them to read a paragraph in which a person behaved in an ambiguously hostile way. For example, participants read about a person who "demands his money back from a store clerk immediately after a purchase and refuses to pay his rent until his apartment is repainted."[105] Devine then asked participants to make judgments about the person.[106] She found a direct relationship between the priming and the judgments participants made: "participants who were primed with more stereotyped words judged the actor's ambiguous behavior as more hostile than participants who were primed with fewer stereotyped words."[107] To put it more simply, subliminally priming participants with flashing words like "lazy" and "Black" affected the way participants later judged the hostility of African Americans in racially stereotyped ways.

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[102]   These networks connect related stereotypes with one another. For example, priming someone to think about African Americans and athleticism will simultaneously and automatically cause people to also think about African Americans and aggressiveness as well as African Americans and inferior intelligence. *See Stereotypes and Prejudice, supra* note 89.

[103]   *Id.*

[104]   This non-conscious priming activated racial stereotypes of African Americans. *Id.* at 9–10. Participants in one condition saw these racial stereotype words more frequently than participants in the other condition (Eighty percent versus twenty percent).

[105]   *Id.* at 10. This paragraph had been used in previous research. *Id.* (citing Bargh & Pietromonaco, *supra* note 92; C.S. Carver et al., *Modeling: An Analysis in Terms of Category Accessibility,* 19 J. OF EXPERIMENTAL SOC. PSYCHOL. 403 (1983)).

[106]   *Id.*

[107]   Levinson, *The Complicitous Mind, supra* note 2, at 625 (citing *Stereotypes and Prejudice, supra* note 89 at 11–12).

Following Devine's work, researchers have continued to investigate how primed stereotypes affect decision-making and behaviors. In a follow-up study to their music priming study, Rudman and Lee tested how briefly listening to violent rap music (compared to non-violent pop music) affected participants' unrelated behavioral judgments of Black and White actors.[108] As in their first study, Rudman and Lee played audio clips for participants. This time, however, the researchers rigged the audio player to break down during the sixth song. Participants were then lead to believe that the study, which had been described as a "marketing" study, had to be discontinued. Participants were told, however, that they could complete a separate, unrelated study questionnaire on "person perception"[109] in order to complete their obligation of participating in a study.[110]

As a result of this study design, Rudman and Lee were able to test whether the rap music prime affected entirely unrelated judgments of ambiguous behaviors. Participants read a story about ambiguously sexist behaviors (such as a man refusing to tip a female waitperson or a man refusing to let a female door-to-door salesperson inside the house).[111] Half of the participants read about Donald (whom the researchers believed participants would consider White) and half of the participants read about Kareem (presumably Black).[112] Participants were then asked to rate the story actor's (Donald or Kareem's) level of hostility, sexism, and intelligence.[113] Results of the study corroborated the researchers' predictions. Participants who previously listened to rap music (compared to participants who listed to pop music) made greater hostility and sexism ratings for Kareem (compared to those who read about Donald), and even rated Kareem as having lower intelligence (also compared to those who read about Donald).[114] This study shows that a simple prime activation (here, hostile and misogynistic rap music) can influence judgments of seemingly unrelated ambiguous traits and behaviors (such as intelligence) in racially biased ways. It could follow then that racial stereotypes primed in the courtroom might affect the way jurors interpret and evaluate trial evidence.

Demonstrating the dangers of priming racial stereotypes in the criminal justice context, one research team examined how subliminal racial priming affected judgments related to juvenile offenders. Testing a participant group of police officers and juvenile probation officers, Sandra Graham and Brian Lo-

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[108]   Rudman & Lee, *supra* note 97, at 140–41.

[109]   The experimenters verified that participants did not suspect that the music study was related to the person perception/ judgment study. *See id.*

[110]   All participants agreed to complete the study. To increase the believability of the story that the second questionnaire was unrelated to the audio/music study, participants received a separate consent form. *Id.* at 141.

[111]   *Id.* at 140.

[112]   The researchers later confirmed that these beliefs were true. Participants did consider generally Donald as White and Kareem as Black. *Id.* at 141.

[113]   *Id.* at 140.

[114]   Rudman & Lee, *supra* note 97, at 142.

wery employed a priming scheme based on Devine's methodology, flashing content-coded words at a high speed such that participants would be primed but would remain unaware of the content of the prime.[115] They primed half of the participants with words related to African Americans, such as "Harlem", "ghetto," and "dreadlocks," and primed the other half of participants with non-racial content words such as "sunset," "mosquito," and "toothache."[116] They then presented participants with two hypothetical crime reports detailing juveniles (whose race was not identified) engaging in misbehavior and measured whether the priming affected judgments of those behaviors.[117] The results of the study confirmed that the priming activated racial stereotypes of African Americans, and demonstrated that priming affected the way the participants made judgments.[118] Both police officers and juvenile probation officers who had been primed with African American words made harsher decisions of the juveniles. The biased decisions included a broad range of judgments, including the juveniles' traits,[119] culpability, and likelihood of reoffending.[120]

These studies demonstrate powerfully that racial stereotypes are activated easily and that they can affect a broad range of decisions. They, thus, set the stage for an empirical examination of whether racial cues can automatically affect the way people evaluate trial evidence.

IV. TESTING FOR BIAS — THE EMPIRICAL STUDY

In light of the still evolving stage of legal scholarship on implicit bias, and building upon the social cognition theory of priming, we examined whether altering the skin tone of a perpetrator in a security camera photo affected the way participants judged various pieces of trial evidence.

A.   Methods

Sixty-six jury eligible students at the University of Hawai`i participated in the study.[121] Participants were seated in separate cubicles, each of which

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[115]   Graham & Lowery, *supra* note 68.

[116]   *Id.* at 489.

[117]   *Id.* at 490.

[118]   *Id.* at 493–94.

[119]   Examples of traits tested were mature-immature and violent- nonviolent. *Id.* at 490.

[120]   *Id.* at 496.

[121]   Participants received extra credit for participating in the study. All participants were 18 years old or older and none had been convicted of a felony. All but seven of these participants were jury eligible in the state of Hawai`i. Seven participants were residents of other states. Statistical tests were conducted in order to test for any significant differences between Hawai`i residents (n = 58) and non-Hawai`i residents (n=7). No significant differences were found, and therefore we combined Hawai`i residents and non-residents for the purpose of data analysis. There were originally sixty-seven participants, but one participant was removed due to missing data.

contained a Dell computer.[122] After participants gave informed consent, the study began. The first task began by describing an armed robbery. Participants read the following information:[123]

> The defendant has been charged with armed robbery. The incident occurred at 11pm on December 18, 2008, when the Quick Stop Mini Mart was robbed by two armed men wearing masks. According to the police report, the owner of the Mini Mart had just closed the store when two armed men barged into the store. One of the men pointed the gun at the owner while the other walked behind the counter to the cash register. The owner obeyed all of the men's commands and was not injured. The men left the store with approximately $550 in cash. They fled in a dark blue 4-door full sized sedan.

Participants were then instructed that they would view several photographs of the crime and crime scene.[124] After receiving this instruction, participants viewed five photographs in succession. The photograph slideshow was pre-timed such that each photo was displayed for four seconds each. All participants viewed the photos in the same order. The third slide was the subject of the experimental manipulation. This photo contained an image of a gunman wearing a mask. The gunman holds a gun in his left hand and is reaching over the counter with his right hand, presumably in an attempt to collect money.[125] Based upon the experimental condition they were randomly assigned to, participants viewed a photo of either a dark-skinned perpetrator or a lighter-skinned perpetrator. The photos were identical in all other respects. Because the only skin visible in the photo was the perpetrator's forearms, experimental manipulation was accomplished without regard for any race-identifiable facial features.

After participants viewed the slideshow, they were informed that a suspect was arrested and charged with armed robbery. They were then told that they would be asked to evaluate certain pieces of evidence from witnesses who would testify at the robbery trial.[126] The participants then read and responded

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[122] There were two cubicles in the lab. Thus, no more than two participants took the study at any given time. The entire study was computerized.

[123] The instructions for the first task were: "The first task is about how jurors evaluate evidence for criminal trials. Please carefully read the following description of a crime as if you were a jury member."

[124] They were instructed: "You will now see a slideshow of photographs of the crime and crime scene. Please study the photos carefully. After seeing the photographs you will be asked some questions."

[125] These photos are attached as Appendix B.

[126] They were instructed:

> You will read one piece of evidence at a time. We are trying to determine which pieces of evidence are most important to the trial and verdict. In particular, we want to know whether each specific piece of evidence tends to indi-

individually to twenty pieces of evidence, which were presented in randomized order.[127] A few examples are:

> The defendant used to be addicted to drugs.
>
> The defendant has been served with a notice of eviction from his apartment.
>
> The defendant is left-handed.
>
> The defendant was a youth Golden Gloves boxing champ in 2006.
>
> The defendant is a member of an anti-violence organization.
>
> The defendant does not have a driver's license or car.

The pieces of evidence were designed to be ambiguous to varying degrees. Certain pieces of evidence tended to indicate that the defendant may be guilty (e.g. the store owner identified the defendant's voice in an audio line-up). Others tended to indicate that the defendant may be not guilty (e.g. the defendant had a used movie ticket stub for a show that started 20 minutes before the crime occurred.) Still others tended to be more neutral (e.g. the defendant was a youth Golden Gloves boxing champ in 2006). Based on social cognition research,[128] we predicted that priming would affect evidence evaluation so long as

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cate that the defendant is Guilty or Not Guilty. On each screen that follows, you will see one piece of evidence listed. For each piece of evidence you see, select one of the numbered responses.

Participants were asked to respond on the following 1–7 scale:

    1 = very strongly tending to indicate Not Guilty
    2 = strongly tending to indicate Not Guilty
    3 = somewhat indicating Not Guilty
    4 = neutral evidence
    5 = somewhat tending to indicate Guilty
    6 = strongly tending to indicate Guilty
    7 = very strongly tending to indicate Guilty

[127]   These items of evidence are listed in Appendix A. The order was randomized to eliminate order effects. The order that evidence is presented has been shown to effect the way it is judged. *See* Kurt A. Carlson & J. Edward Russo, *Biased Interpretation of Evidence by Mock Jurors*, 7 J. EXPERIMENTAL PSYCHOL: APPLIED 91 (2001).

[128]   *See* Eisenberg & Johnson, *supra* note 62, at n.43 (citing Sheri Lynn Johnson, *Black Innocence and the White Jury*, 83 MICH. L. REV. 1611, 1626–34 (1985)) (noting that stereotypes are more likely to affect a decision when that decision is difficult). *See generally Stereotypes and Prejudice, supra* note 89 (testing how priming race affects judgments of ambiguously hostile behaviors).

the items were at least slightly ambiguous, such that activated stereotypes would serve to influence the way participants perceived and interpreted information. For example, if a racial stereotype of aggression were activated by viewing a security camera image of a dark-skinned perpetrator, participants might be more likely to believe that the defendant who was seen shopping at the store two days prior was "casing the joint," rather than simply shopping (which might indicate a case of mistaken identity[129]). Each piece of evidence was chosen so that multiple interpretations of that evidence would be possible, although this was particularly true for the more neutral pieces of evidence.

      Participants were next asked to decide whether the defendant was guilty or not guilty. This measure allowed us to test whether the participants' evidence judgments predicted their guilty and not guilty verdicts. To add more meaning to this measure by providing a wider range of responses, we also asked participants to answer "on a scale of 0 (definitely not guilty) to 100 (definitely guilty), how guilty is the defendant?"

      After completing the evidence measurement task, participants then completed several other measures, including the Modern Racism Scale,[130] "feeling thermometer" measures,[131] and two IATs designed to test implicit associations underlying the concepts of race and criminal guilt.[132] Including these measures allowed us to examine whether the participants' evidence judgments were related to other measures. For example, if racially biased evidence judgments were related to negative explicit racial preferences, one would see a correlation between evidence scores and scores on the Modern Racism Scale.[133]

B.   *Limitations of Study and Future Directions*

      Because Biased Evidence Hypothesis is a new hypothesis that had not previously been tested, our study was necessarily limited, particularly in that it

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[129]   Cases of mistaken identity, often based upon the memory-driven phenomenon of "unconscious transference," have been reported. The human memory can sometimes transfer the source of one memory to another context. *See* Francis A. Gilligan et al., *The Theory of "Unconscious Transference": The Latest Threat to the Shield Laws Protecting the Privacy of Victims of Sex Offenses*, 38 B.C. L. REV. 107, 123–24, 142 (1996); Levinson, *Forgotten Racial Equality, supra* note 1, at 382; Richard L. Marsh et al., *Gender and Orientation Stereotypes Bias Source-Monitoring Attributions*, 14 MEMORY 148, 157–58 (2006).

[130]   The Modern Racism Scale purports to measure racial beliefs by asking self-report questions. Researchers use it to evaluate explicit racial preferences and to compare responses of implicit measures on race to explicit measures on race. *See* J.B. McConahay, *Modern Racism, Ambivalence, and the Modern Racism Scale, in* PREJUDICE, DISCRIMINATION, AND RACISM 91 (John F. Davido & Samuel L. Gaertner eds., 1986).

[131]   Feeling thermometers also measure explicit racial preferences by asking how warm or cool a person feels towards a certain group. It is an alternative measure to the Modern Racism Scale. *See Measuring Individual Differences, supra* note 89.

[132]   For a complete discussion of the IATs, *see* Levinson et al., *supra* note 73.

[133]   Based on the results of other social cognition studies, we did not expect that Modern Racism Scale scores would correlate with skin tone-based judgments of evidence.

was not tested in real trial conditions. Future studies should build upon this paradigm, and do so in a more trial-like manner. Several elements of this study could be expanded in future studies. First, participants could be drawn from a broader population. Our study participants were jury-eligible University students, but they were not under legal obligation to act as jurors at the time of the study. Next, in future studies, evidence could be presented in a more trial-like manner. In our study, evidence was presented from only one perspective, rather than from multiple perspectives. Furthermore, the amount of evidence that was presented was limited. Participants read only a short description of the crime and then evaluated twenty pieces of evidence from the trial.[134] The amount of evidence we presented is thus less substantial than the amount of evidence a typical juror would hear.[135] Finally, future studies could expand upon the priming task we used. Our study limited the priming task to the security camera photo. It would be important to test how priming in various contexts (e.g. ethnicity of defendant, witnesses, victim, etc.) might implicate evidence evaluation.[136]

C.   *Demographics of Study Participants*

Study participants came from several different ethnic backgrounds. Twenty-five participants were Japanese American, eighteen were European American, and five were Chinese American. Other participants were Native Hawaiian, Pacific Islander, Korean American and Latino.[137] Nineteen of the participants were male and forty-seven were female.[138] The average participant age was 21.85.[139] Despite the diversity in the participant pool, there were no

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[134]   Future studies might also consider using evidence collected from real trials.

[135]   It is possible that as evidence complexity and a juror's cognitive load increases, the opportunity for bias may also increase. Some studies have suggested that increasing cognitive busyness increases stereotype consistent cognitive errors. *See* Levinson, *Forgotten Racial Equality*, *supra* note 1, at 374 (citing C. Neil Macrae et al., *Creating Memory Illusions: Expectancy-Based Processing and the Generation of False Memories*, 10 MEMORY 63 (2002)).

[136]   In our study, participants saw a photograph of a perpetrator, and were subsequently informed that a suspect was arrested and charged with the robbery. We did not ask participants whether they believed that the defendant was in fact the perpetrator in the photo. Future studies should seek to identify the exact nature of the prime and examine its relationship, if any, to the defendant.

[137]   In addition, three participants identified themselves as multi-racial, and five participants indicated "other."

[138]   Differences between the male study participants and female study participants were not significant, possibly due to the low number of male participants. Future studies should examine whether there are significant gender differences in responses.

[139]   Participant's ages ranged from eighteen to forty (SD=3.95). There are demographic advantages to conducting the study in Hawai`i. Levinson has argued that researchers can "examine African-American bias and stereotypes in a community with a historically small African-American population (finding implicit biases against African Americans in Hawai`i might tend to illustrate the power of implicit racial bias and its propagation through external sources such as

statistically significant differences based on the ethnicity of the participants. For example, Asian American and Caucasian participants did not differ significantly in the way they displayed evidence evaluation bias. This result indicates that Biased Evidence Hypothesis, if confirmed, would not be limited to Caucasian jurors.

The diversity of the participant pool is also notable because of Hawai'i's unique cultural community, where racial stereotypes exist in a complex historical environment.[140] The history of racial discrimination in Hawai'i is different from many locations in the continental United States.[141] One might expect that the biased evidence evaluations we predicted might be even stronger in locations where there are more salient stereotypes of African Americans.

D.   Results — Skin Tone and Racially Biased Judgments

We tested our hypotheses using two separate statistical models, a MANCOVA[142] (a multivariate analysis of variance test) and a logistic regression.[143] A MANCOVA was performed to investigate the effect of the experimental condition (dark skin tone versus light skin tone of the perpetrator) on total evidence judgments[144] and on judgments of how guilty the participant per-

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media)." In addition, researchers can "test biases and stereotypes among a diverse population, which would indicate that implicit biases are manifested in the legal setting by a broader (not just Caucasian) juror population." Levinson, *Forgotten Racial Equality, supra* note 1, at 396.) One drawback of our sample is that none of the participants were African American. (Although the African American community in Hawai'i is small, there is a rich history of African Americans in Hawai'i. *See* THEY FOLLOWED THE TRADE WINDS: AFRICAN AMERICANS IN HAWAI'I (Miles Jackson ed., 2004)). Thus, we cannot test whether African American participants would judge evidence in the same stereotype-consistent way. However, research from social cognition suggestions that such a result is entirely possible. For example, research has found that members of some groups harbor implicit biases towards their own groups. *See* Mahzarin R. Banaji & Anthony Greenwald, *Implicit Gender Stereotyping in Judgments of Fame,* 68 J. PERSONALITY & SOC. PSYCHOL. 181, 194 (1995) (finding that both men and women harbored negative implicit gender stereotypes of women); Brian Nosek et al., *Pervasiveness and Correlates of Implicit Attitudes and Stereotypes,* 18 EUR. REV. SOC. PSYCHOL. 36 (2007) (indicating that participants over sixty years old often have an implicit bias in favor of young over old).

[140]   Eric Yamamoto, *The Significance of Local, in* SOCIAL PROCESSES IN HAWAI'I 138, 138–49 (Peter Manicus ed., 1974).

[141]   *See* Levinson, *Forgotten Racial Equality, supra* note 1, at 395–96.

[142]   MANCOVA, a form of multivariate general linear modeling, is particularly appropriate in this case because we predicted differences in multiple dependant outcome variables. This statistical analysis allows the researcher to preserve power while performing multiple analyses. The overall multivariate test (Wilk's Lambda) was significant for the skin tone of the photo show (F=3.31, p<.043).

[143]   We controlled for sex and age. We implemented these control measures to allow us to see the effect that skin tone priming had above and beyond any effects that may be due to age or sex.

[144]   In order to view racial priming's effect on a trend of judging evidence as opposed to its effect on individual pieces of evidence, we summed judgments of evidence.

ceived the suspect to be. A logistic regression was performed to ascertain the affect of these two variables on the dichotomous decision of guilty or not guilty.

1.   Skin Tone Affects Judgments of Ambiguous Evidence

The perpetrator's skin tone in the photo significantly affected evidence judgments.[145] Participants who saw the photo of the perpetrator with a dark skin tone[146] judged ambiguous evidence to be significantly more indicative of guilt than participants who saw the photo of a perpetrator with a lighter skin tone.[147]

2.   Skin Tone Affects Judgments of "How Guilty Is the Defendant"

The perpetrator's skin tone also significantly affected judgments of how guilty the defendant was (on a scale of 0–100). Participants who saw a darker-skinned perpetrator judged the defendant as more guilty[148] than participants who saw a lighter-skinned perpetrator.[149] This indicates that simply being primed with darker skin tone not only affected the way participants judged evidence, but also led them to perceive the defendant as more guilty.[150]

3.   Evidence Judgments Predict Guilty Verdicts

The logistic regression analysis confirmed that participants' evidence judgments also predicted their guilty/not guilty verdicts.[151] In addition, scaled 0–100 ratings of the defendant's guilt statistically predicted dichotomous guilty/not guilty verdicts.[152]

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[145] $F=4.835$, $p=.032$. The statistics we report in this subsection are multivariate tests of analysis, F-test values, p values, and Beta coefficients. Multivariate tests, which are used in MANCO-VAs and other analyses with more than one dependent variable, show the overall appropriateness of conducting a multivariate analysis. F-test values consider the distribution of variance between groups and within groups to help determine the source of variance. P values report the statistical significance levels of the tests performed. In other words, P values report how likely it is that results were found by "chance" as opposed to measuring an actual effect. The lower the p value is, the more significant the result. P values of .05 or less are generally considered to be statistically significant. Beta (B) coefficients in logistic regression represent a parameter estimate that predicts the logit odds of our dependant variable being "Guilty" or "Not Guilty". In this case, a higher beta score predicts higher logit odds of participants finding the defendant guilty.

[146]   Mean (M)= 86.23.

[147]   M= 80.49.

[148]   M=66.97 on a scale of 0–100.

[149]   M=56.37 on the same scale of 0–100.

[150]   F= 4.40, p= .034.

[151]   Beta (B)= -.101, p =.05.

[152]   B= -.152, p<.001.

4.   Evidence Judgments Unrelated to Explicit Racial Preferences

We were particularly interested in whether the skin tone effects we found were implicit in nature.[153] In order to test whether explicit racial preferences were playing a role in evidence judgments, we calculated correlation coefficients between the explicit measures of racial preferences (Modern Racism Scale and feeling thermometers) and the other dependent variables (total evidence judgments, and how guilty 0–100 judgments). All correlations between explicit measures of bias and experimental measures were non-significant.[154] Furthermore, when we included them in regression models, none of the explicit measures of prejudice emerged as significant predictors.[155]

5.   Stimuli Recall, Priming, and IAT Results

In order to further determine whether the priming task had functioned on an implicit level, we asked participants at the end of the study to recall the race of the perpetrator in the security camera photo.[156] The results for this question, although somewhat difficult to interpret, tended to indicate that many participants did not recall whether they had seen a perpetrator with the dark or lighter skin tone. Importantly, regardless of the accuracy of their memory, participant responses did not differ significantly based on the race of the perpetrator that they reported seeing.[157] This result suggests that the skin tone of the perpetrator was not being considered consciously as part of judgments based on the skin tone in the photo. In addition, the results of the IATs we ran predicted evidence judgments, strengthening the claim that the evidence judgments were implicit in nature.[158]

E.   *Summary of Results and Implications*

The study we conducted yielded several interesting results. First, we found that simply showing participants a photo of a dark-skinned perpetrator introduced racial bias into a crucial jury function — evaluating evidence. Next,

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[153]   Unlike in some of the priming tasks we discussed *infra* Section III, participants saw the photos for four seconds. Thus, the priming was not subliminal.

[154]   However, there was a marginally significant relationship between total evidence scores and feeling thermometer scores (which were scored by subtracting feelings towards African Americans from feelings towards European Americans). r=.226, p=.068.

[155]   p>.5.

[156]   For this question, we were unable to ask participants whether they saw a dark-skinned or light-skinned suspect, particularly because skin tones are relative. We thus decided to ask participants to identify the race of the perpetrator in the photo, and then to consider their responses in light of the skin tone of the perpetrator they saw.

[157]   All p's >.05.

[158]   For more on these IATs, see Levinson et al., *supra* note 73.

we found that these biased evidence judgments mattered; they predicted guilty and not guilty verdicts. Finally, we found that the evidence-based racial cues likely were implicit in nature and may have activated stereotypes even without the participants' awareness.

These results should raise concerns about jurors' ability to meet out justice objectively. If simple racial cues have the ability to automatically incorporate racial stereotypes into evidence evaluation, particularly without the jurors' awareness, the implications of this bias could be far reaching. First, proof of unintentional racial bias in evidence evaluation would contradict legal assumptions that verdicts are determined based upon an objective weighing of the evidence. Second, confirmation of implicit bias in evidence evaluation would provide empirical support for what many scholars have argued for years — the law sometimes acts as a tool to subordinate already disadvantaged groups.[159] As Biased Evidence Hypothesis is investigated further, the connection between biased evidence evaluation and racial justice should also be explored.

In view of the need to consider implicit bias in decision-making in the context of racial justice, the next section more broadly considers the results of our study together with other proof of implicit racial bias in decision-making. It presents a well-known model of jury decision-making and argues that implicit bias has the potential to affect not only evidence evaluation, but also nearly every key element of jury decision-making.

V. DEVELOPING A NEW MODEL OF IMPLICIT RACIAL BIAS AND DECISION-MAKING

Biased evidence evaluations may well lead to racial disparities in the criminal justice system. Yet broader legal scholarship on unconscious racism, as well as scientific evidence documenting the pervasiveness of implicit bias in American society, suggests that biased evidence evaluations are unlikely to be the sole point of infiltration of implicit bias in decision-making. This section describes how implicit bias has the potential to wreak havoc not just on evidence evaluation, but on each key element in the juror decision-making process.[160] This exploration is necessarily nascent, and as our brief examination reveals, there are some areas where implicit bias in decision-making has been examined only partially, and others where it has not been examined at all. Nevertheless, considering several emerging projects on implicit bias,[161] there is

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[159]   *See generally* DERRICK BELL, RACE, RACISM, AND AMERICAN LAW (4th ed. 2000).

[160]   Because the decision-making model we rely upon in this section focuses mostly on the decision-making of individual jurors, so will this section. As Lora Levett and her colleagues summarize, "many studies have demonstrated that the best predictor of postdeliberation verdicts is individual jurors' predeliberation verdicts." Lora M. Levett et al., *The Psychology of Juror and Juror Decision-Making, in* PSYCHOLOGY AND LAW: AN EMPIRICAL PERSPECTIVE 365, 370 (Neil Brewer & Kipling D. Williams eds. 2005).

enough evidence to propose that implicit bias may disrupt the entire decision-making process.[162]

An acclaimed model of decision-making, Nancy Pennington and Reid Hastie's "Story Model" of decision-making,[163] provides proper context for the consideration of how implicit racial bias may broadly affect decision-making. This section explains how Biased Evidence Hypothesis and other emerging research on implicit bias fit together with the stages of the Story Model.[164] It first describes the three major components of the Story Model. It then explains how scholarship on implicit racial bias shows that each Story Model component is particularly susceptible to the introduction of implicit bias. Finally, it calls for the pursuit of a research agenda that will lead towards a complete implicit bias model of decision-making.

A. The Story Model of Decision-Making

The Story Model proposes that jurors in criminal cases develop explanation-based stories describing "'what happened' during events testified to at the trial."[165] According to Pennington and Hastie, the particular story a juror

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[161] Other projects we have conducted on implicit bias in the law claim that these biases affect jurors in multiple ways: the way they remember and misremember case facts, *see* Levinson, *Forgotten Racial Equality*, *supra* note 1; the way they hold implicit associations between race and criminal guilt, *see* Levinson et al., *supra* note 73; the way supposedly neutral laws and legal processes can unwittingly prime racial biases in jurors, *see* Levinson, *Suppressing Community Values*, *supra* note 50; Levinson, *The Complicitous Mind*, *supra* note 2; and, as demonstrated in our study, the way that jurors perceive and weigh evidence. These studies are just the first step in developing a complete and interdisciplinary model of the way racial stereotypes operate in criminal law decision-making.

[162] Beginning to develop a model now, when research is still emerging, will eventually help to consider whether it is possible to employ change processes or legal changes that will at least partially combat the harm being done. We thus view our analysis as only the first step in developing such a model.

[163] Nancy Pennington & Reid Hastie, *Practical Implications of Psychological Research on Juror and Jury Decision Making*, 16 PERSONALITY & SOC. PSYCHOL BULL. 90, 95 (1990); *see generally* Nancy Pennington & Reid Hastie, *A Cognitive Theory of Juror Decision Making: The Story Model*, 13 CARDOZO L. REV. 519 (1991); Nancy Pennington & Reid Hastie, *Explaining the Evidence: Tests of the Story Model for Juror Decision Making*, 62 J. PERSONALITY. & SOC. PSYCHOL. 189, 189–90 (1992) [hereinafter *Explaining the Evidence*].

[164] It also considers other decision-making research that supplements the Story Model. *See, e.g.,* Dan Simon, *A Third View of the Black Box: Cognitive Coherence in Legal Decision Making*, 71 U. CHI. L. REV. 511 (2004). Although this section investigates specific projects on implicit bias primarily in the context of the story model of decision-making, one might consider the possibility that implicit bias operates as a heuristic, or cognitive shortcut, that affects decision-making. *See* Jolls & Sunstein, *supra* note 27, at 7–10 (considering implicit bias as a heuristic). This approach is consistent with the "heuristic-systematic model" of decision-making, which proposes that "people process information along a heuristic/systematic continuum." Ryan J. Winter & Edith Greene, *Juror Decision-Making*, *in* HANDBOOK OF APPLIED COGNITION 739, 744 (Francis Durso ed., 2007).

[165] *Explaining the Evidence, supra* note 163.

constructs ultimately "determines the juror's decision:"[166] "story construction enables comprehension and organization of the evidence so that evidence can be meaningfully evaluated against multiple verdict judgment dimensions."[167] The stories that jurors construct are dependent upon three cognitive processing components that explain the way jurors interpret information.[168] These components, and the Story Model generally, are developed and implemented both through "a mixture of conscious and nonconscious processes."[169] As the following analysis illustrates, they are thus particularly susceptible to implicit racial biases.

The first component of the Story Model, evidence evaluation through story construction, explains perhaps the most important piece of how jurors make decisions — the way in which they first assemble knowledge into a story form.[170] Pennington and Hastie propose that three types of knowledge combine to assemble a juror's knowledge into story form: case-specific information about the trial, knowledge about similar crimes, and the juror's expectations about what makes a complete story.[171] Discussing these components, Pennington and Hastie summarize: "some of these inferences may be suggested by the attorney and some may be constructed solely by the juror. Whatever their source, the inferences will serve to fill out the episode structure of the story."[172] As the next subsection will discuss, considering the relationship between these three types of knowledge and racial stereotypes, it is not difficult to imagine how implicit biases may function to influence the inferences that jurors make, therefore altering their story construction in racially biased ways.

The second component, representation of the decision alternatives by learning verdict category attributes, describes how jurors come to understand their decision-making options.[173] According to Pennington and Hastie, jurors learn their options both through the judge's instructions on the law and through their "prior ideas regarding the meaning of the verdict categories."[174] As we will discuss, if the judge's instructions unintentionally introduce implicit bias, or if jurors prior ideas about verdict categories are already biased, or both, this

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[166]   *Id.* at 190.

[167]   *Id.* at 192.

[168]   *Id.*

[169]   Reid Hastie, *Conscious and Nonconscious Cognitive Processes in Jurors' Decision, in* BETTER THAN CONSCIOUS? DECISION-MAKING, THE HUMAN MIND, AND IMPLICATIONS FOR INSTITUTIONS 371, 384 (Christoph Engel & Wolf Singer eds., 2008).

[170]   *Explaining the Evidence, supra* note 163, at 190–91.

[171]   *Id.* at 190. Although this section does not address jurors' expectations about what makes a complete story, it is also quite plausible that jurors' story expectations are affected by implicit bias.

[172]   *Id.* at 191.

[173]   *Id.* at 191. *See also* Nancy Pennington & Reid Hastie, *The Story Model for Juror Decision-Making, in* INSIDE THE JUROR: THE PSYCHOLOGY OF JUROR DECISION-MAKING 192, 200 (Reid Hastie ed., 1993) [hereinafter *The Story Model*].

[174]   *Explaining the Evidence, supra* note 163, at 191.

second component of the Story Model illustrates yet another way that implicit bias can affect decision-making.

The third component of the Story Model describes how jurors reach a decision through the classification of their constructed story into the best-fitting verdict category.[175] This component thus describes how the first two components come together. In addition, this component also incorporates legal principles such as the presumption of innocence.[176] If the first two components of the Story Model have been tainted by implicit bias, the third component will therefore automatically become infected. Similarly, because during this stage jurors apply the presumption of innocence in determining how their already constructed stories fit into the verdict categories, if implicit bias distorts the presumption of innocence, it can further bias the jurors' decisions.

B.   Memory Errors, Biased Evidence, Implicit Associations, and More

This subsection begins an amplification of the Story Model in light of evidence on implicit bias. It considers the three components of the Story Model, in the same order as described by Pennington and Hastie.

Biased Evidence Hypothesis and biased memory errors each have the potential to incorporate implicit bias into the first component of the Story Model.[177] As the empirical study described in Section IV demonstrated, biased evidence evaluations were found to predict verdicts. Because Biased Evidence Hypothesis fits so squarely into the first stage of the Story Model, "evidence evaluation through story construction," we therefore turn to other evidence that implicit bias can taint the first component of the Story Model.

Implicit memory bias demonstrates another way that story construction can become tainted with implicit bias. In a project previously described,[178] Levinson claimed that jurors misremember case facts in racially biased ways. Drawing upon empirical studies to support his argument, Levinson explained that social cognition "research in memory and decision-making indicates that memory errors are normal, occur in stereotype-driven ways, and can manifest in a variety of ways that ultimately affect legal decision-making."[179] After ex-

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[175]   *Id.*

[176]   *Id.* *See also The Story Model, supra* note 173, at 201.

[177]   In addition to Biased Evidence Hypothesis, the first component of the Story Model may also allow for implicit bias introduction in another way. According to this component in the Story Model, jurors also rely upon knowledge of similar crimes to help them construct their stories. Thus, if jurors' knowledge of similar crimes is tainted by racial stereotypes, these stereotypes will again become incorporated into the Story Model. A study by Skorinko and Spellman found that people hold clear stereotypes that associate certain ethnic groups with specific crimes. *See infra* note 191 and accompanying text.

[178]   *See* Levinson, *Forgotten Racial Equality, supra* note 1. *See supra* notes 50–55 and accompanying text.

[179]   *Id.* at 374.

amining how these principles apply to the legal decision-making context, Levinson then conducted an empirical study that supported his hypothesis.[180] The results of the study showed that study participants were more likely to remember aggressive story facts when they read about an African American actor compared to a Caucasian actor.[181] For some facts, participants were even more likely to possess false memories, such that they erroneously believed that the African American actor had taken aggressive actions when he had not.[182]

Levinson's hypotheses and the social cognition studies underlying it fit directly into the Story Model's first component, and specifically into the sub-component describing how jurors heavily rely upon case-specific information about the trial. Simply stated, if jurors' memories of case facts are affected by racial bias, then the stories they construct based on those memories will be biased. Story Model research by Pennington and Hastie confirms that the Story Model is "memory-dependent."[183] In a study of memory's role in decision-making, Pennington and Hastie presented mock-jurors with information from a murder trial.[184] The mock jurors were later quizzed in order to test what information they remembered.[185] The results of the study showed that mock-jurors were more likely to remember trial evidence when that evidence supported their verdict.[186] The results thus demonstrated that memory is a critical function in decision-making. Combining Levinson's study with the Story Model indicates that racially biased memories of case facts likely predict biased verdicts.

The second component of the Story Model is also susceptible to implicit bias, although there are fewer empirical studies in this domain. We first consider a judge's instructions to jurors on the law, and next discuss the role of jurors' "prior ideas regarding the meaning of verdict categories." In considering an amplification of this component, there are two main points to consider: first, judges' instructions on the law may prime racial stereotypes, and second, jurors "prior ideas regarding the meaning of verdict categories" may incorporate crime-specific racial stereotypes into decision-making. Although more targeted research is needed in this domain, we briefly explain how these points might each introduce implicit bias into decision-making.

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[180]   *Id.* at 390–406.

[181]   *Id.* at 398–401.

[182]   *Id.* at 400. The results also showed that "susceptibility to misremembering facts based on race cannot be attributed simply to more overtly racist people — those who were susceptible to racial misremembering sometimes embraced less explicitly racist attitudes." *Id.* at 350.

[183]   *Id.* at 193–95. *See also* Nancy Pennington & Reid Hastie, *Explanation-Based Decision Making: Effects of Memory Structure on Judgment*, 14 J. EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY, AND COGNITION 521 (1988) [hereinafter *Memory Structure*].

[184]   Levinson, *Forgotten Racial Equality, supra* note 1, at 197–98 (citing David A. Schum & Anne W. Martin, *Formal and Empirical Research on Cascaded Inference in Jurisprudence*, 17 LAW & SOC'Y REV. 105 (1982)); *Memory Structure, supra* note 183, at 525–26.

[185]   *Memory Structure, supra* note 183, at 525–26.

[186]   *Id.* at 526–27.

First, it is entirely plausible that judges' instructions on the law might prime jurors' racial biases.[187] As we have described,[188] people are extremely susceptible to automatic stereotype priming by racial cues. Although researchers have yet to examine specifically whether a judge's instructions can prime racial bias, Levinson has suggested two ways that legal processes may change jurors' cognitive processes in undesirable ways. First, jury duty itself can trigger implicit knowledge structures, perhaps even those including racial stereotypes that carry forward historical inequality in the legal system.[189] And second, certain supposedly race-neutral legal processes, such as "death qualification" in a capital trial, may unintentionally trigger juror racial biases.[190] It would not be particularly surprising, then, if certain elements of judges' instructions to juries unintentionally triggered racial stereotypes in jurors. Future research should explore this possibility.

Second, it is also possible that jurors' "prior ideas about verdict categories" are racially biased, particularly in cases with alternative verdict categories. If jurors hold stronger implicit associations between members of stereotyped groups and one particular verdict category (such as intentional murder or drug dealing) relative to another (such as reckless homicide or drug possession), then implicit bias has the potential even to affect the way jurors interpret the verdict categories. Although researchers have not yet looked at this specific issue, some studies have found that jurors hold strong race-specific stereotypes related to certain crimes. For example, Jeanine Skorinko and Bobbie Spellman found that study participants associated intentional murder with African Americans.[191] If jurors in a homicide case are given instructions for intentional murder and reckless homicide (or jurors in a narcotics case are given instructions for drug dealing and drug possession), for example, then previous race-relevant stereotypes held about these crimes might affect the way jurors make decisions.

Finally, the third component of the Story Model is also susceptible to implicit bias. As previously described,[192] Levinson, Cai and Young investigated implicit bias in the presumption of innocence by designing and running a Guilty/Not Guilty IAT.[193] The results of the study showed that participants as-

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[187]   Researchers have yet to investigate whether supposedly race-neutral jury instructions might also prime racial stereotypes, but such a possibility should be investigated. If it were confirmed, it would fit specifically into the second component of the Story Model.

[188]   *See supra* notes 89, 92–120 and accompanying text.

[189]   *See* Levinson, *Suppressing Community Values*, *supra* note 50.

[190]   *See* Levinson, *The Complicitous Mind*, *supra* note 2.

[191]   Jeanine L. Skorinko & Barbara A. Spellman, Stereotypic Crimes: How Group-Crime Associations Affect Memory and (Sometimes) Verdicts and Sentencing Appx. C (June 2006) (unpublished manuscript, on file with the author). Some crimes, including the non-violent crimes of identity fraud and ecstasy possession, are stereotypic White crimes.

[192]   *See supra* notes 73–76 and accompanying text.

[193]   *See generally* Levinson et al., *supra* note 73.

sociated Black and Guilty, compared to White and Guilty.[194] In light of the results, the authors questioned whether the presumption of innocence is truly a race-neutral concept.[195]

The results of the Guilty/Not Guilty IAT demonstrate another way that implicit bias affects decision-making. The third component of the Story Model states that jurors consider the first two components in light of the presumption of innocence and the burden of proof. Jurors thus consider the presumption of innocence when determining whether their story fits the decision alternatives. If jurors hold implicit biases manifested as cognitive associations between Black and Guilty, a finding that calls into question the racial equality underlying the presumption of innocence, then this third Story Model component likely allows the introduction of a new element of implicit bias into decision-making.

Considered together, it is not difficult to see that nearly all of the important elements in jury decision-making have the potential to become tainted by implicit bias. Future research, particularly empirical endeavors, should continue to examine this possibility and continue to build an implicit bias model of decision-making.

VI. CONCLUSION: SETTING A RESEARCH AGENDA

Because only a few empirical studies have investigated implicit bias in the legal context,[196] future research must continue to investigate the ways in which implicit bias leads to racial injustice in the legal system. Some of these endeavors should examine implicit bias in legal decision-making, an area which, as we have described, is still tremendously ripe for discovery. Others should explore implicit bias in non-decision-making contexts. For example, implicit bias may exist in the administration of a wide range of laws, including property law, contract law, immigration law, trusts and estates law, and more.[197] Pursuing such a broad research agenda will help in seeking to understand continuing racial inequality in American society — racial inequality that the legal system has yet to resolve. It is our prediction that, as more research is conducted, these projects will portray implicit bias as an ever-present hidden danger in our legal system.

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[194]   *Id.* at 16–17. In addition, IAT results predicted the way the participants evaluated ambiguous trial evidence (using the evidence measure discussed in this Article). *Id.* at 18–19.

[195]   Courts and many scholars have assumed that the presumption of innocence is a bedrock of fairness. *See* Coffin v. United States, 156 U.S. 432, 453 (1895); Rinat Kitai, *Presuming Innocence*, 55 OKLA. L. REV. 257, 260–61 (2002)); Levinson et al., *supra* note 73, at 13–14 (citing Estelle v. Williams, 425 U.S. 501, 503 (1976) (stating that "[t]he presumption of innocence . . . is a basic component of a fair trial under our system of criminal justice).

[196]   *See* Section II.A.3 for a review of these studies.

[197]   *See, e.g.,* Kang, *supra* note 1, at 1536–37 (listing a range of areas that should be investigated).

Future projects should also test ways of lessening the harms of implicit bias. Although little progress has been made in understanding how to reduce implicit biases across society, social scientists have found that several types of interventions have at least temporarily reduced the harmful effects of implicit bias in limited settings.[198] For example, Jennifer Richeson and Richard Nussbaum found that multiculturalism training temporarily reduced implicit racial biases.[199] And Nilanjana Dasgupta and Anthony Greenwald found that briefly exposing participants to photos of "famous and admired" African American exemplars, such as Denzel Washington, temporarily decreased implicit biases against African Americans.[200] None of these debiasing or bias-lessening studies, however, have been conducted in the context of law or a courtroom. Future projects should undertake this important endeavor. In the case of Biased Evidence Hypothesis, future research should evaluate whether any interventions might at least help to dampen the harmful effects of an evidence evaluation bias. Some possibilities include: training jurors on multiculturalism, confronting jurors with their biases,[201] or drafting new jury instructions designed to reduce the chances of priming stereotypes.[202]

Before charging into this research agenda, however, a bit of caution is in order regarding the bias reduction strategies we have suggested. Considered in societal context, narrowly focused bias-reduction strategies represent an inadequate and only temporary response to a culturally based problem.[203] The

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[198]   For explanations of some of these studies, see, e.g., Kang, supra note 1, at 1494; Kang & Banaji, supra note 2, at 1065; Levinson, Forgotten Racial Equality, supra note 1, at 411; Page, supra note 26, at 160.

[199]   Jennifer A. Richeson & Richard J. Nussbaum, The Impact of Multiculturalism Versus Color-Blindness on Racial Bias, 40 J. EXPERIMENTAL SOC. PSYCHOL. 417, 420 (2004). The researchers were comparing training on multiculturalism versus training on "color-blindness." See also Laurie A. Rudman et al., Unlearning Automatic Biases: The Malleability of Implicit Prejudice and Stereotypes, 81 J. PERSONALITY & SOC. PSYCHOL. 856, 865 (2001).

[200]   Nilanjana Dasgupta & Anthony G. Greenwald, On the Malleability of Automatic Attitudes: Combating Automatic Prejudice with Images of Admired and Disliked Individuals, 81 J. PERSONALITY & SOC. PSYCHOL. 800, 803 (2001).

[201]   Research has indicated that at least some, but not all, ways of confronting implicit biases have the potential to reduce the power of harmful stereotypes. See Alexander M. Czopp et al., Standing up for a Change: Reducing Bias Through Interpersonal Confrontation, 90 J. PERSONALITY & SOC. PSYCHOL. 784, 799 (2006). For a caution on using such an intervention with jurors, see Levinson, Forgotten Racial Equality, supra note 1, at 414 n.322.

[202]   Longer-term efforts might include increasing diversity in the ranks of judges and attorneys. Studies have shown that exposing people to counterstereotypic exemplars can reduce biases. See Nilanjana Dasgupta & Shaki Asgari, Seeing Is Believing: Exposure to Counterstereotypic Women Leaders and Its Effect on the Malleability of Automatic Gender Stereotyping, 40 J. EXPERIMENTAL SOC. PSYCHOL. 642, 645 (2004). See also Kang & Banaji, supra note 2 (suggesting the hiring of counterstereotypic exemplars in a variety of fields).

[203]   See Levinson, Forgotten Racial Equality, supra note 1, at 417–20 (reviewing debiasing techniques as a second-best alternative to cultural change). See also Ralph R. Banks & Richard T. Ford, (How) Does Unconscious Bias Matter?: Law, Politics, and Racial Inequality, 58 EMORY L.J. 1053 (2009) (claiming that the focus should be on the pervasiveness of discrimination, not on

second-best strategies that we have proposed, such as the development of de-biasing instructions for jurors, may temporarily lessen jurors' biases for a few crucial hours, but are no long term match for the powerful and pervasive harms of implicit racial bias. Nor can debiasing techniques dismantle the continuing racial inequality present in America. Unfortunately, however, for now only bias reduction strategies exist. Bias elimination strategies do not exist because, short of cultural change and the elimination of all forms of racial inequality, these societal-based biases will remain. [204] We therefore propose bias reduction strat-egies with the understanding that the long-term goal must include taking cultural responsibility for racial inequality and implicit bias.

The investigation of Biased Evidence Hypothesis has revealed yet another deeply concerning way that implicit bias threatens racial justice and legal fairness. If jurors are unable to evaluate trial evidence without the intru-sion of harmful racial stereotypes, racial justice in the legal system and beyond is surely not at hand.

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whether the bias is conscious, unconscious or covert); *Unconscious Racism Revisited, supra* note 15 (questioning whether some legal scholarship on implicit biases might unintentionally mask the "societal disease" underlying continuing racism and "collective responsibility" for eliminating it).

[204]   *See generally Unconscious Racism Revisited, supra* note 15.

APPENDIX A

Items of Evidence Evaluated by Participants

The defendant purchased an untraceable handgun three weeks before the robbery.

The store owner identified the defendant's voice in an audio line-up.

A week after the robbery, the defendant purchased jewelry for his girlfriend.

The defendant's brother is in jail for trafficking narcotics.

The defendant recently lost his job.

The defendant used to be addicted to drugs.

The defendant has been served with a notice of eviction from his apartment.

The defendant was videotaped shopping at the same Mini Mart two days before the robbery.

The defendant frequently shops at a variety of Mini Mart stores.

The defendant used to work at this particular Mini Mart.

The defendant is left handed.

The defendant was a youth Golden Gloves boxing champ in 2006.

The defendant belongs to a local gun club called Safety Shot: The Responsible Firing Range.

The defendant had a used movie ticket stub for a show that started 20 minutes before the crime occurred.

The defendant wore a plaster cast on his broken right arm around the time of the robbery.

The defendant is a member of an anti-violence organization.

The defendant's fingerprints were not found at the scene of the crime.

The defendant does not have a driver's license or car.

The defendant has no prior convictions.

The defendant graduated high school with good grades.

APPENDIX B

Photo from Security Camera — Lighter Skin Tone

Photo from Security Camera — Darker Skin Tone