IMPLICIT BIAS

KIRWAN INSTITUTE
for the Study of Race and Ethnicity

STATE OF THE SCIENCE: **IMPLICIT BIAS REVIEW 2014**

As a university-wide, interdisciplinary research institute, the Kirwan Institute for the Study of Race and Ethnicity works to deepen understanding of the causes of—and solutions to—racial and ethnic disparities worldwide and to bring about a society that is fair and just for all people.

Our research is designed to be actively used to solve problems in society. Research and staff expertise are shared through an extensive network of colleagues and partners, ranging from other researchers, grassroots social justice advocates, policymakers, and community leaders nationally and globally, who can quickly put ideas into action.

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ULTIMATELY, WE BELIEVE OUR DECISIONS ARE CONSISTENT WITH OUR CONSCIOUS BELIEFS, WHEN IN FACT, ***OUR UNCONSCIOUS IS RUNNING THE SHOW***

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Howard Ross, 2008, p. 11

State of the Science: Implicit Bias Review 2014

Cheryl Staats
Research Associate II

With funding from the W. K. Kellogg Foundation

Dear Reader,

Early last year, the Kirwan Institute for the Study of Race & Ethnicity published its first issue of the *State of the Science: Implicit Bias Review* to help raise awareness of 30 years of findings from neurology and social and cognitive psychology showing that hidden biases operating largely under the scope of human consciousness influence the way that we see and treat others, even when we are determined to be fair and objective. This important body of research has enormous potential for helping to reduce unwanted disparities in every realm of human life.

Sharon L. Davies
Executive Director

THE RESPONSE TO KIRWAN'S *State of the Science* report was overwhelmingly enthusiastic. It was clear that the publication responded to a broad desire for more information about what brain science has discovered about unconscious biases and the interventions that might counter their negative effects.

Teachers, physicians, judges, lawyers, administrators, businesses, foundations and others from across the United States requested copies and then returned for more guidance about how to incorporate the lessons of this research into their organizations and workplaces. Researchers sent messages of thanks for the bridge that the publication provided between their work and the audiences that needed to know about and understand it.

It is our great pleasure, therefore, to provide to the field this second issue of the Kirwan Institute's *State of the Science: Implicit Bias Review*. We hope that it will continue to assist you and your colleagues in your work for a more equitable and inclusive society.

Please let us hear from you.

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APPENDIX

By many accounts, 2013 was a great year of growth for implicit bias research, both in terms of the range of published scholarship as well as the extent to which the concept infiltrated the public domain. Implicit bias is increasingly being included in current events dialogue, often in light of emotionally-charged situations such as the Trayvon Martin/George Zimmerman altercation (see Chapter 3) or the unfortunate police shooting death of Jonathan Ferrell (McLaughlin, 2013).

BEYOND THESE HIGHLY-PUBLICIZED incidents, many other developments in the field merited attention. Renowned implicit bias researchers Mahzarin Banaji and Anthony Greenwald released *Blindspot: Hidden Biases of Good People*, a scientific yet highly-approachable book on implicit bias and how it surreptitiously can affect numerous aspects of our daily lives. Several esteemed organizations and entities devoted conference sessions (and in some cases entire conferences) to highlighting implicit bias and its implications, including the W.K. Kellogg Foundation's America Healing Conference (April 2013), the Texas Center for the Judiciary's Implicit Bias Conference (March 2013), and the Minority Corporate Council Association's Creating Pathways to Diversity Conference (September 2013), among others. Outside of the United States, relevant conferences included the Implicit Bias and Philosophy Project's conference on Implicit Bias, Philosophy, and Psychology (April 2013 in the UK) and the Trent University Implicit Bias Conference (March 2013 in Canada).

Implicit bias also garnered attention in some popular mainstream publications. The September 2013 issue of *Essence* magazine featured an extensive interview with Dr. David R. Williams on the effects of implicit biases in the health care field (see Wilkerson, 2013). In addition, a *New York Times* column by David Brooks from early in the year not only summarized a few key findings from implicit bias

research, it also called for additional efforts to eradicate this unconscious form of discrimination:

"Sometimes the behavioral research leads us to completely change how we think about an issue. For example, many of our anti-discrimination policies focus on finding the bad apples who are explicitly prejudiced. In fact, the serious discrimination is implicit, subtle and nearly universal. Both blacks and whites subtly try to get a white partner when asked to team up to do an intellectually difficult task. In computer shooting simulations, both black and white participants were more likely to think black figures were armed. In emergency rooms, whites are pervasively given stronger painkillers than blacks or Hispanics. Clearly, we should spend more effort rigging situations to reduce universal, unconscious racism" (Brooks, 2013).

Articles and events such as these illuminate the extent to which this fascinating phenomenon has gained traction and is increasingly permeating public discourse.

UNIVERSITY INITIATIVES

Moreover, some institutions of higher education have embraced raising awareness of implicit bias as a university-wide initiative. Beyond acknowledging the phenomenon on human resources/hiring web pages, these efforts seek to enlighten members of the university community regarding the numerous effects of implicit bias, both on campus and in larger societal dynamics. For example, the University of Colorado-Boulder has a working group open to any member of the university community that meets monthly to explore various facets of implicit attitudes and consider how these unconscious attitudes affect work and the campus environment.

Here at The Ohio State University, the Kirwan Institute has joined a dynamic collective of university departments and entities that seeks to increase implicit bias knowledge and awareness across campus.[1] Known as the Implicit Bias Collaborative, this group organizes various events and programs designed to foster and further a university-wide conversation about implicit bias, thereby cultivating a work and educational environment that supports equity and dignity for all. Efforts spearheaded by members of this collaborative have already produced several successful and informative events since its launch in mid-2013. In the hopes of inspiring other entities seeking to share implicit bias research within their respective institutions, a few of these events are highlighted in call-out boxes periodically throughout this Review document.

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1. The OSU Implicit Bias Collaborative includes representatives from the Office of Diversity and Inclusion, the Diversity and Identity Studies Collective (DISCO), Gender Initiatives in STEMM, Office of Human Resources, the Kirwan Institute for the Study of Race and Ethnicity, the OSU Center for Ethics and Human Values, Project CEOS: Comprehensive Equity at Ohio State, The Women's Place, University Senate Diversity Committee, and the Ohio State University Wexner Medical Center.

"Implicit biases come from the culture. I think of them as the thumbprint of the culture on our minds. Human beings have the ability to learn to associate two things together very quickly—that is innate. What we teach ourselves, what we choose to associate is up to us."

Dr. Mahzarin R. Banaji, quoted in Hill, Corbett, & Rose, 2010, p. 78

ABOUT THIS REVIEW

As a follow-up to the tremendously popular 2013 edition of the *State of the Science: Implicit Bias Review*,[2] this publication builds on the foundation laid by that document. For those who may be unfamiliar with implicit bias and the science behind it, Chapter 1 serves as a primer to introduce the topic, capturing some of the key ideas that were discussed at length in the 2013 edition. The next two chapters focus on the scholarly literature from 2013, with Chapter 2 detailing many of these recent publications, and Chapter 3 taking a step back to reflect on some of the larger trends occurring in the field stemming from this 2013 literature. Chapters 4 and 5 delve into the concept of implicit racial bias as it operates within particular domains, specifically employment and housing. Following the conclusion, this publication closes by including materials in the appendices that may be useful to those who are seeking to educate others regarding implicit racial bias.

It is also important to note that while this Review largely focuses on implicit racial and ethnic biases, a wide variety of characteristics (e.g., gender, age, religion) can activate implicit biases. Moreover, while the intention of this document is to be as comprehensive as possible, it should not be regarded as exhaustive due to the tremendous quantity of implicit bias literature that exists. Finally, for consistency in this text, I favor the use of the term "implicit bias," though it is crucial to recognize that the scholarly literature also embraces the terms "unconscious bias" and "implicit social cognition," all of which generally refer to the same phenomenon.

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2. The 2013 edition of the State of the Science: Implicit Bias Review 2013 is available at www.kirwaninstitute.osu.edu/implicit-bias-review

CHAPTER ONE

Primer on Implicit Bias

1

*"THE SOCIAL SCIENCE RESEARCH DEMONSTRATES THAT **ONE DOES NOT HAVE TO BE A RACIST WITH A CAPITAL R**, OR ONE WHO INTENTIONALLY DISCRIMINATES... ON THE BASIS OF RACE, TO HARBOR IMPLICIT RACIAL BIASES."*

Professor Cynthia Lee, 2013, p. 1577

Implicit bias refers to the attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner. These biases, which encompass both favorable and unfavorable assessments, are activated involuntarily and without an individual's awareness or intentional control (Blair, 2002; Rudman, 2004a). Residing deep in the subconscious, these biases are different from known biases that individuals may choose to conceal for the purposes of social and/or political correctness. Rather, implicit biases are not accessible through introspection (Beattie, 2013; Kang, et al., 2012). Internationally acclaimed social scientist David R. Williams grounds the conceptual in real world realities when he states, "This is the frightening point: Because [implicit bias is] an automatic and unconscious process, people who engage in this unthinking discrimination are not aware of the fact that they do it" (Wilkerson, 2013, p. 134).

Everyone is susceptible to implicit biases (Nosek, Smyth, et al., 2007; Rutland, Cameron, Milne, & McGeorge, 2005). Dasgupta likens implicit bias to an "equal opportunity virus" that everyone possesses, regardless of his/her own group membership (Dasgupta, 2013, p. 239). The implicit associations we harbor in our subconscious cause us to have feelings and attitudes about other people based on characteristics such as race, ethnicity, age, and appearance. These associations are generally believed to develop over the course of a lifetime beginning at a very early age through exposure to direct and indirect messages (Castelli, Zogmaister, & Tomelleri, 2009; Kang, 2012; Rudman, 2004a, 2004b). Others have written that implicit ingroup preferences emerge very early in life (Dunham, Baron, & Banaji, 2008). In addition to early life experiences, the media and news programming are often-cited origins of implicit associations (Kang, 2012). Dasgupta (2013) writes that exposure to commonly held attitudes about social groups permeate our minds even without our active consent through "hearsay, media exposure, and by passive observation of who occupies valued roles and devalued roles in the community" (Dasgupta, 2013, p. 237).

A FEW KEY CHARACTERISTICS OF IMPLICIT BIASES

■ Implicit biases are **pervasive and robust** (Greenwald, McGhee, & Schwartz, 1998; Kang, et al., 2012; Kang & Lane, 2010; Nosek, Smyth, et al., 2007). Everyone possesses them, even people with avowed commitments to impartiality such as judges (Rachlinski, Johnson, Wistrich, & Guthrie, 2009).

■ Implicit and explicit biases are generally regarded as **related but distinct mental constructs** (Dasgupta, 2013; Kang, 2009; Wilson, Lindsey, & Schooler, 2000). They are not mutually exclusive and may even reinforce each other (Kang, et al., 2012). Some research suggests that implicit attitudes may be better at predicting and/or influencing behavior than self-reported explicit attitudes (Bargh & Chartrand, 1999; Beattie, Cohen, & McGuire, 2013; Ziegert & Hanges, 2005). Moreover, some scholars suggest that implicit and explicit attitudes should be considered in conjunction in order to understand prejudice-related responses (Son Hing, Chung-Yan, Hamilton, & Zanna, 2008).

■ The implicit associations we hold arise outside of conscious awareness; therefore, they **do not necessarily align with our declared beliefs** or even reflect stances we would explicitly endorse (Beattie, et al., 2013; Graham & Lowery, 2004; Greenwald & Krieger, 2006; Kang, et al., 2012; Reskin, 2005).

■ We generally tend to hold implicit biases that **favor our own ingroup**, though research has shown that we can still hold implicit biases against our ingroup (Greenwald & Krieger, 2006; Reskin, 2005). This categorization (ingroup vs. outgroup) is often automatic and unconscious (Reskin, 2000).

■ Implicit biases have **real-world effects on behavior** (see, e.g., Dasgupta, 2004; Kang, et al., 2012; Rooth, 2007).

■ Implicit biases are **malleable**; therefore, the implicit associations that we have formed can be gradually unlearned and replaced with new mental associations (Blair, 2002; Blair, Ma, & Lenton, 2001; Dasgupta, 2013; Dasgupta & Greenwald, 2001; Devine, 1989; Kang, 2009; Kang & Lane, 2010; Roos, Lebrecht, Tanaka, & Tarr, 2013).

MEASURING IMPLICIT COGNITION

The unconscious nature of implicit biases creates a challenge when it comes to uncovering and assessing these biases. Years of research led to the conclusion that self-reports of biases are unreliable, because we are generally weak at introspection and therefore often unaware of our biases (Greenwald, et al., 2002; Kang, 2005; Nisbett & Wilson, 1977; Nosek, Greenwald, & Banaji, 2007; Nosek & Riskind, 2012; Wilson & Dunn, 2004). Moreover, self-reports are often tainted by social desirability concerns due to impression management tactics through which some individuals modify their responses to conform with what is regarded as "socially acceptable" (D. Amodio & Devine, 2009; Dasgupta, 2013; Dovidio, Kawakami,

Johnson, Johnson, & Howard, 1997; Fazio, Jackson, Dunton, & Williams, 1995; Greenwald & Nosek, 2001; Greenwald, Poehlman, Uhlmann, & Banaji, 2009; E. E. Jones & Sigall, 1971; Nier, 2005; Nosek, Greenwald, et al., 2007; Sigall & Page, 1971).

With these constraints in mind, researchers from several fields have developed assessments that seek to measure implicit cognition. One avenue of exploration focuses on physiological instruments that assess bodily and neurological reactions to stimuli, such as through use of functional Magnetic Resonance Imaging (fMRI). These studies often focus primarily on the amygdala, a part of the brain that reacts to fear and threat and also has a known role in race-related mental processes (Davis & Whalen, 2001; A. J. Hart, et al., 2000; Pichon, Gelder, & Grèzes, 2009; Whalen, et al., 2001). Findings from these studies indicate that amygdala activity can provide insights into unconscious racial associations (see, e.g., Cunningham, et al., 2004; Lieberman, Hariri, Jarcho, Eisenberger, & Bookheimer, 2005; Phelps, et al., 2000; Ronquillo, et al., 2007). Other researchers have utilized techniques such as facial electromyography (EMG) and cardiovascular and hemodynamic measures as other physiological approaches to measure implicit prejudices (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001; Vanman, Saltz, Nathan, & Warren, 2004).

Another avenue for measuring implicit cognition has included priming methods in which a subliminal initial prime influences or increases the sensitivity of a respondent's subsequent behaviors (Goff, Eberhardt, Williams, & Jackson, 2008; Tinkler, 2012). Finally, response latency measures that analyze how reaction times to stimuli can provide insights into how strongly two concepts are associated (D. Amodio & Devine, 2009; Kang & Lane, 2010; Rudman, 2004a).

THE PREMISE OF RESPONSE LATENCY measures undergirds one of the groundbreaking tools for measuring implicit associations—the Implicit Association Test (IAT). The IAT, debuted by Anthony Greenwald and colleagues in 1998, measures the relative strength of associations between pairs of concepts though a straightforward series of exercises in which participants are asked to sort concepts (Greenwald, et al., 1998). This matching exercise relies on the notion that when two concepts are highly associated, the sorting task will be easier and therefore require less time than it will when the two concepts are not as highly associated (Greenwald & Nosek, 2001; Reskin, 2005). Any time differentials that emerge through these various sorting tasks provide insights into the implicit associations the test-taker holds. These time differentials (known as the IAT effect) have been found to be statistically significant and not simply a result of random chance (Kang, 2009). Moreover, an extensive range of studies have examined various methodological aspects of the IAT, including its reliability (Bosson, William B. Swann, & Pennebaker, 2000; Dasgupta & Greenwald, 2001; Greenwald & Farnham, 2000; Greenwald & Nosek, 2001; Kang & Lane, 2010; Nosek, Greenwald, et al., 2007), validity (Greenwald; Greenwald, et al., 2009; Jost, et al., 2009), and predictive validity (Blanton, et al., 2009; Egloff & Schmukle, 2002; Fazio & Olson, 2003; Greenwald & Krieger, 2006; Greenwald, et al., 2009; McConnell & Liebold, 2001). Generally

speaking, this scrutiny has led to the conclusion that the IAT is a methodologically sound instrument. In the words of Kang and Lane (2010), "After a decade of research, we believe that the IAT has demonstrated enough reliability and validity that total denial is implausible" (Kang & Lane, 2010, p. 477).

The IAT has been used to assess implicit biases across a range of topics, including gender, weight, sexuality, and religion, among others. Of particular interest to the Kirwan Institute are findings related to race. The popular Black/White IAT analyzes the speed with which participants categorize White and Black faces with positive and negative words. The racial group that individuals most quickly associate with the positive terms reflects a positive implicit bias towards that group. Extensive research has uncovered a pro-White/anti-Black bias in most Americans, regardless of their own racial group (Dovidio, Kawakami, & Gaertner, 2002; Greenwald, et al., 1998; Greenwald, et al., 2009; McConnell & Liebold, 2001; Nosek, Banaji, & Greenwald, 2002). Moreover, researchers have even documented this bias in children, including those as young as six years old (Baron & Banaji, 2006; Newheiser & Olson, 2012; Rutland, et al., 2005).

Dr. Brian A. Nosek Visits Ohio State

On October 22, 2013, OSU welcomed prominent implicit bias researcher Dr. Brian Nosek to campus. His presentation, "Mindbugs: The Ordinary Origins of Bias," was a public lecture that was also telecasted to OSU's regional campuses. In a lively and engaging manner, Dr. Nosek shared extensive information about implicit biases and how implicit assumptions influence our decision-making. Through a series of accessible and entertaining examples, he emphasized that we do not observe our mental operations; we only observe their outcomes. Dr. Nosek concluded his presentation by offering numerous practical steps for countering the influence of implicit biases in our lives, including the need for ongoing measurement and feedback, the importance of making assumptions explicit, and the significance of taking the time to slow down and make thoughtful, deliberate decisions.

Dr. Nosek's visit was sponsored by The Women's Place, Office of Gender Initiatives in STEMM, Project CEOS, Office of Diversity and Inclusion, Kirwan Institute for the Study of Race and Ethnicity, Arts and Sciences, DISCO, and the Columbus Partnership.

DEBIASING

Given that biases are malleable and can be unlearned, researchers have devoted considerable attention to studying various debiasing techniques in an effort to use this malleability property to counter existing biases. Debiasing is a challenging task that relies on the construction of new mental associations, requiring "intention, attention, and time" (Devine, 1989, p. 16). Banaji and Greenwald use the analogy of a stretched rubber band when discussing how debiasing interventions must be consistently reinforced. They write, "Like stretched rubber bands, the associations modified ... likely soon return to their earlier configuration. Such elastic changes can be consequential, but they will require reapplication prior to each occasion on which one wishes them to be in effect" (Banaji & Greenwald, 2013, p. 152). Emphasizing the need for repeated practice and training, others assert these new implicit associations may stabilize over time (Glock & Kovacs, 2013).

Moreover, debiasing is not simply a matter of repressing biased thoughts. Research has indicated that suppressing automatic stereotypes can actually amplify these stereotypes by making them hyper-accessible rather than reducing them (Galinsky & Moskowitz, 2000, 2007; Macrae, Bodenhausen, Milne, & Jetten, 1994).

Several approaches to debiasing have emerged, yielding mixed results. Among those for which research evidence suggests the possibility of successful debiasing outcomes include:

- **Counter-stereotypic training** in which efforts focus on training individuals to develop new associations that contrast with the associations they already hold through visual or verbal cues (see, e.g., Blair, et al., 2001; Kang, et al., 2012; Kawakami, Dovidio, Moll, Hermsen, & Russin, 2000; Wittenbrink, Judd, & Park, 2001)

- Another way to build new associations is to **expose people to counter-stereotypic individuals.** Much like debiasing agents, these counterstereotypic exemplars possess traits that contrast with the stereotypes typically associated with particular categories, such as male nurses, elderly athletes, or female scientists (see, e.g., Dasgupta & Asgari, 2004; Dasgupta & Greenwald, 2001; Kang & Banaji, 2006).

- **Intergroup contact** generally reduces intergroup prejudice (Peruche & Plant, 2006; Pettigrew, 1997; Pettigrew & Tropp, 2006). Allport stipulates that several key conditions are necessary for positive effects to emerge from intergroup contact, including individuals sharing equal status and common goals, a cooperative rather than competitive environment, and the presence of support from authority figures, laws, or customs (Allport, 1954).

- **Education efforts aimed at raising awareness about implicit bias** can help debias individuals. The criminal justice context has provided several examples of this technique, including the education of judges (Kang, et al., 2012; Saujani, 2003) and prospective jurors (Bennett, 2010; Roberts, 2012). These education efforts

have also been embraced by the health care realm (Hannah & Carpenter-Song, 2013; Hernandez, Haidet, Gill, & Teal, 2013; Teal, Gill, Green, & Crandall, 2012).

- Having a **sense of accountability**, that is, "the implicit or explicit expectation that one may be called on to justify one's beliefs, feelings, and actions to others," can decrease the influence of bias (T. K. Green & Kalev, 2008; Kang, et al., 2012; Lerner & Tetlock, 1999, p. 255; Reskin, 2000, 2005).

- **Taking the perspective of others** has shown promise as a debiasing strategy, because considering contrasting viewpoints and recognizing multiple perspectives can reduce automatic biases (Benforado & Hanson, 2008; Galinsky & Moskowitz, 2000; Todd, Bodenhausen, Richeson, & Galinsky, 2011).

- **Engaging in deliberative processing** can help counter implicit biases, particularly during situations in which decision-makers may face time constraints or a weighty cognitive load (Beattie, et al., 2013; D. J. Burgess, 2010; Kang, et al., 2012; Richards-Yellen, 2013). Medical professionals, in particular, are encouraged to constantly self-monitor in an effort to offset implicit biases and stereotypes (Betancourt, 2004; Stone & Moskowitz, 2011).

With this foundation of previous research in mind, the next chapter addresses more recent additions to the scholarly literature.

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CHAPTER TWO

New Developments in the Implicit Bias Literature

*"UNCONSCIOUS BIAS HAS BEEN WIDELY HAILED AS A NEW DIVERSITY PARADIGM—ONE THAT RECOGNIZES THE ROLE THAT BIAS PLAYS IN THE **DAY-TO-DAY FUNCTIONING OF ALL HUMAN BEINGS**."*

Dr. Dena Hassouneh, 2013, p. 183

The growth of the implicit bias field is reflected in the considerable output of scholarly literature during the past year. This chapter builds on the inaugural edition of the Kirwan Institute's *State of the Science: Implicit Bias Review* by updating the three domain areas covered in that publication (criminal justice, health/health care, and education) as well as other key areas of research with newly released literature, primarily from 2013. While this chapter is not comprehensive, it seeks to include a wide-range of the latest research and findings.

Criminal Justice

SHOOTER / WEAPONS BIAS

A 2012 article by Melody S. Sadler et al. builds on the shooter/weapons bias studies published by Joshua Correll and his colleagues (see, e.g., Correll, Park, Judd, & Wittenbrink, 2002; Correll, et al., 2007). Studies that explore shooter bias measure the implicit associations that individuals hold with respect to Blackness and weapons. This research relies on video game simulations in which participants are instructed to "shoot" when individuals wielding threatening objects (e.g., handguns) appear on the screen, and to refrain from shooting when the object is innocuous (e.g., a wallet, cell phone, or can of soda). Correll's hypothesis, which has been supported in his work, is that the stereotypes that associate African Americans with violence may provoke participants to "respond with greater speed and accuracy to stereotype-consistent targets (armed African Americans and unarmed Whites) than to stereotype-inconsistent targets (armed Whites and unarmed African Americans)" (Correll, et al., 2002, p. 1325).

Sadler and her colleagues expanded on this work by adding Latino and Asian targets in the video game simulation to assess the influence of implicit racial bias on the decision to shoot. In the first part of their study, Sadler et al. found that college students showed marked implicit racial bias against Black targets; participants were more likely to "shoot" when the target was Black than if the target was White, Asian, or Latino (Sadler, Correll, Park, & Judd, 2012). Ultimately, participants responded more quickly to armed Black targets than armed White, Latino, or Asian targets; when the target was unarmed, it took participants longer to correctly refrain from shooting Black unarmed targets compared to targets from any of the other three comparison groups (Sadler, et al., 2012). In terms of the accuracy of these "shots," participants' ability to distinguish threatening objects from nonthreatening was not significantly different for Blacks and Latinos, nor was it different when comparing Whites and Asians (Sadler, et al., 2012).

Acknowledging that these shoot/no shoot decisions are among the typical job duties of police officers as opposed to college students, a second part of Sadler's study used a population of 224 police officers from three regions of the United States to investigate whether police officers would replicate the patterns they found for college students. Results from the police officers mirrored the college student sample with one exception; the officers were more accurate when the target is Latino as opposed to Black (Sadler, et al., 2012). Considering this research effort as a whole, the authors reflect that the implicit racial biases in shoot/no shoot decisions is more than just an anti-Black phenomenon.

Finally, in an article that focused on shooter bias, the Trayvon Martin killing, and implicit bias, Feingold and Lorang offered two promising interventions for defusing implicit bias—further training for gun owners and revising self-defense/"Stand Your Ground" laws so that they are less permissive and discourage the impulsive use of deadly force (Feingold & Lorang, 2013).

DEFENSE ATTORNEYS

Like all populations, defense attorneys are also susceptible to implicit biases (Eisenberg & Johnson, 2004; Lyon, 2012). A recent article by L. Song Richardson and Phillip Atiba Goff argued that the triage process in which public defenders prioritize cases can be influenced by implicit bias. The authors explain how the often overwhelming case loads, imperfect information, and need for quick decisions create an environment in which implicit bias can affect public defenders' judgments of which cases merit the most time and resources (Richardson & Goff, 2013). The essay closes with several recommendations that may mitigate against the effects of implicit bias on defender judgments, including setting triage standards that are objective and measurable, using checklists and other mechanisms to ensure accountability and reduce biased judgments, and developing intentional if-then plans for how to respond in situations wherein implicit biases are likely to be activated (Richardson & Goff, 2013).

COURTROOM DYNAMICS

A 2013 article by Cynthia Lee in the *North Carolina Law Review* drew upon the Trayvon Martin shooting as a foundation for an extensive discussion on the benefits of making race salient during self-defense cases as a means to counter the activation of implicit racial biases. Lee encourages prosecutors and criminal defense attorneys who are concerned about the role of implicit racial bias to make race salient in the courtroom, which she defined not simply as making jurors aware of the victim's or defendant's race, but instead "making jurors aware of racial issues that can bias their decision-making, like the operation of racial stereotypes" (C. Lee, 2013, p. 1586). After examining research on implicit bias, shooter bias, and aversive racism, Lee contends that making race salient levels the proverbial playing field, allowing jurors to treat similarly situated Black and White defendants the same, whereas failing to make race salient seems to lead to unequal treatment, often to the detriment of Black defendants. She concludes by offering numerous suggestions for how attorneys concerned about implicit racial bias can make race salient, including the following: (1) Questioning prospective jurors about racial bias during voir dire; (2) Using the opening statement to highlight race and racial issues associated with the case; (3) Bringing the racialized nature of the case to light through lay witnesses; (4) Employing expert testimony to review the substantial evidence supporting the existence and prevalence of implicit bias; (5) Educating prospective jurors on implicit bias, such as through a video presentation (see, e.g., Roberts, 2012); and (6) During closing arguments, inviting jurors to race-switch (i.e., imagine the same facts and circumstances but with the race of the defendant and the victim switched) when deliberating (C. Lee, 2013).

JURIES

In a *Law and Psychology Review* article, Casey Reynolds considered the standard of proof in criminal cases and carefully examines associated legal terms such as "beyond a reasonable doubt." As part of this discussion, Reynolds examined how implicit biases can infiltrate the court proceedings via jurors who unknowingly enter the courtroom with a set of inferences that, in light of the uncertainty Reynolds notes surrounds "reasonable doubt," can be activated. Mindful of this connection, Reynolds advocates that jurors should receive clear instruction not to consider inferences when ascertaining the defendant's guilt or innocence (Reynolds, 2013). This call for educating jurors about implicit bias and its possible effects in the courtroom echoes other scholars (see, e.g., Bennett, 2010; Larson, 2010; Roberts, 2012).

SENTENCING

A 2013 piece by Kimberly Papillon addressed numerous neuroscientific insights into how the human brain operates in the context of criminal sentencing. The studies she explored underscore on how well-meaning egalitarian judges can still have neurophysiological responses that activate implicit racial biases (Pa-

pillon, 2013). Recognizing the complexity of these mental processes, she closes by stating, "Assuming that judges can simply try harder to be fair, take more time when making decisions, or utilize their egalitarian value systems to eliminate bias in their decision-making process is naïve. The solutions should be tailored to the neurophysiologic reactions and psychological processes that infuse bias into the sentencing decisions" (Papillon, 2013, p. 62).

REDUCING IMPLICIT BIAS IN THE JUDICIAL SYSTEM

With the goal of helping courts address implicit bias, Casey et al. (2013) articulate seven strategies for reducing the influence of implicit bias:

1.) Raise awareness of implicit bias through education efforts at the individual or professional level (In a judicial context, see also Kang, et al., 2012; Saujani, 2003).

2.) Eschew colorblindness and acknowledge real group and individual differences, such as through diversity/multiculturalism training (Indeed, other research suggests that a colorblind ideology generates greater amounts of implicit bias than a multicultural perspective does. See Richeson & Nussbaum, 2004).

3.) Process information in a thoughtful, deliberate manner, such as listing the reasons for a judgment or establishing similar formal protocols that check for implicit biases (Other articles that emphasize deliberative processing include Betancourt, 2004; D. J. Burgess, 2010; Kang, et al., 2012).

4.) Remove distractions and allow for enough time and cognitive resources to carefully process the information related to a case rather than relying on intuition or "gut instincts" (For more on the importance of time and avoiding gut instincts, see Beattie, 2013; Bertrand, Chugh, & Mullainathan, 2005; Richards-Yellen, 2013).

5.) Reduce ambiguity in decision-making by committing to specific judgment criteria before reviewing a case (Others have emphasized the importance of using pre-defined decision-making criteria in other realms. See Beattie, et al., 2013).

6.) Institute nonthreatening feedback mechanisms to provide judges and other court professionals meaningful information about any biases they possess, along with concrete suggestions for improving performance (For more on accountability, see Kang, et al., 2012; Lerner & Tetlock, 1999; Reskin, 2005).

7.) Increase exposure to counter-stereotypic exemplars, and decrease exposure to stereotypes whenever possible (For more information on counter-stereotypic examplars, see Dasgupta & Greenwald, 2001; Kang & Banaji, 2006; Kang, et al., 2012).

Health/Health care

PHYSICIANS' IMPLICIT BIASES

Previous research has established both the presence of implicit racial biases in health care professionals (see, e.g., Haider, et al., 2011; Moskowitz, Stone, & Childs, 2012; Sabin, Nosek, Greenwald, & Rivara, 2009; Stone & Moskowitz, 2011), as well as extensive evidence that unconscious racial biases can lead to differential treatment of patients by race (A. R. Green, et al., 2007; Sabin & Greenwald, 2012; Schulman, et al., 1999; Weisse, Sorum, Sanders, & Syat, 2001). A 2013 review by Chapman and colleagues compiled a range of research documenting the presence of implicit bias in physicians' clinical decision-making (Chapman, Kaatz, & Carnes, 2013). Echoing the research adage that correlation does not equal causation, Chapman et al. clarify that "Demonstrating that physicians have measurable implicit bias does not provide that this bias affects patient-doctor interactions or alters the treatment process patients receive. However, research supports a relationship between patient care and physician bias in ways that could perpetuate health care disparities" (Chapman, et al., 2013, p. 1507).

While much of the implicit bias literature has largely focused on the Black/White racial dichotomy, Irene V. Blair published two studies in 2013 that introduced Latinos to the discussion of implicit bias in the health care field. Published in the *American Journal of Public Health*, one article compared 210 experienced primary care providers and 190 community members in Denver, Colorado with respect to their levels of implicit and explicit bias against Latinos and African Americans. Both primary care providers and community members exhibited very little explicit bias against Latinos and African Americans, a finding that is unsurprising given that the inclination for impression management is known to distort self-reports, particularly with respect to socially sensitive topics (Dovidio, Kawakami, Smoak, & Gaertner, 2009; Greenwald & Nosek, 2001; Greenwald, et al., 2009). On the unconscious level, however, the IAT revealed that both primary care providers and community members held strong implicit biases against Latinos and African Americans (Blair, Havranek, et al., 2013). An adjusted analysis that accounted for variables such as income, proficiency in Spanish, and the respondents' own race/ethnicity found that primary care providers were found to have "somewhat less" implicit bias against Latinos and African Americans than the community member sample did (Blair, Havranek, et al., 2013, p. 95). In sum, the authors note that the finding of a minimal difference in implicit biases between primary care providers and community members likely reflects larger societal or community issues and is not a sign of any particular problem specific to the health care field.

DOCTOR-PATIENT INTERACTIONS

Turning to doctor-patient interactions, Blair and colleagues' second significant contribution to the literature in 2013 explored whether the implicit and explicit racial/ethnic biases held by clinicians related to how Black and Latino patients rated the quality of the medical care they believe they received from those providers. The authors hypothesized that clinicians with higher levels of implicit racial bias would not be perceived as favorably by their minority patients compared to clinicians who held less implicit bias. Patients rated clinicians on four aspects of patient-centered care, including interpersonal treatment (e.g., the doctor's care/concern for you), communication (e.g., whether your questions are answered), trust (e.g., the clinicians' integrity), and contextual knowledge (e.g., your doctor's knowledge of your values, beliefs, etc.). Despite reporting very little explicit bias, approximately two-thirds of the clinicians were found to harbor implicit bias against Blacks and Latinos (Blair, Steiner, et al., 2013). In terms of Black patients' perceptions of care, the stronger the clinicians' implicit bias against Blacks relative to Whites, the lower the Black patients rated them on all four subscales of patient-centered care. In contrast, the researchers did not find any associations between clinicians' racial/ethnic bias and Latino patients' ratings on any of the four subscales. While Latino patients generally did not rate their clinicians as highly as other patient groups, their ratings were not associated with clinicians' implicit biases.

Considering doctor-patient interactions from a slightly different angle, a 2013 article by Hagiwara and colleagues focused specifically on physician-patient talk time ratios, examining the verbal interactions between Black patients and non-Black primary care physicians. After assessing the physicians' explicit and implicit racial bias and the ratio of time physicians talked relative to their patients, among the findings researchers concluded that non-Black physicians with more negative implicit attitudes toward Blacks talked more than the physicians with lower levels of implicit bias (Hagiwara, et al., 2013). This finding aligns with previous research that associates implicit race bias among primary care clinicians with verbal dominance (Cooper, et al., 2012; Johnson, Roter, Powe, & Cooper, 2004; Penner, et al., 2010).

Moreover, recognizing that "physician communication style is deeply rooted in unconscious bias," other researchers encourage physicians to be mindful of the verbal cues and body language they use when interacting with patients (Santry & Wren, 2012, p. 144). Similarly, in a brief analytic essay, Dovidio and Fiske warn that implicit biases can seep into the communication of medical professionals through subtle mechanisms. They caution, "The ambivalent nature of contemporary racial prejudice may create a mismatch between a physician's positive verbal behavior (a function of conscious egalitarian values) and negative non-verbal behavior (indicating implicit bias); this is likely to make a physician seem especially untrustworthy and duplicitous to those who are vigilant for cues of bias" (Dovidio & Fiske, 2012).

IMPLICIT BIAS AND PATIENT WELLBEING

David Chae et al. published an article on the role of implicit racial bias in the association between racial discrimination and hypertension in late 2012. The study focused on 30 to 50 year old African American men, noting the impacts of stress on cardiovascular health. Building on the research that shows that many Blacks hold implicit anti-Black biases, the research team found the highest risk for hypertension among African American men who held implicit anti-Black biases and reported higher levels of racial discrimination (Chae, Nuru-Jeter, & Adler, 2012). Chae and colleagues suggest that implicit bias and racial discrimination are factors that should be considered when assessing hypertension risk among this demographic group.

MEDICAL SCHOOL EDUCATION

In a brief guest editorial in the *Journal of Nursing Education*, Dr. Dena Hassouneh considered the role of unconscious race bias among nursing school faculty. Hassouneh notes how implicit bias can affect the faculty hiring process and closes by challenging nursing faculty members to tackle implicit racism in their respective institutions (Hassouneh, 2013). Similarly, a short piece published by the Association of American Medical Colleges discussed how unconscious bias plays a role in leadership recruitment at medical schools and teaching hospitals (Greenberg, 2013).

Another 2013 piece critically analyzed a Continuing Medical Education (CME) course that sought to enlighten medical school faculty about unconscious biases, and as a result of raising their awareness of bias, equip them to then share this knowledge with the medical students they teach (Hannah & Carpenter-Song, 2013).

Turning the focus to the medical students themselves, a short article by Hernandez et al. offered medical educators suggestions for how they may engage medical students in meaningful discussions related to implicit bias. Among the suggestions, Hernandez and colleagues advocate for reflective implicit bias activities to be presented as "an exercise in personal development" (Hernandez, et al., 2013, p. e1088). The guidance shared in this article adds to the insights found in Teal et al., 2012 wherein the researchers proposed a developmental model for medical educators that illustrated how medical students may progress from initial denial of unconscious bias to full integration of strategies to mitigate this bias (Teal, et al., 2012). It also speaks to 2007 work by Burgess et al. that outlined a framework for medical trainees and physicians to prevent implicit racial biases from affecting clinical encounters (D. Burgess, van Ryn, Dovidio, & Saha, 2007).

Education

Relative to the other domains addressed in this chapter, the education realm did not receive as much attention in 2013. Glock and Kovacs acknowledge and lament the lack of implicit bias research in the education domain. Specifically, they call for more of this work "in order to gain a more fine-grained understanding of how implicit attitudes relate to teachers' and preservice teachers' decisions about students, independent of whether the decisions involve grading, tracking, or evaluations on the spot" (Glock & Kovacs, 2013, p. 514). They also note that implicit attitude research seems particularly interesting in a classroom context given that teachers often must react to situations under time constraints, a condition known to be conducive to the manifestation of implicit biases (Bertrand, et al., 2005).

From a postsecondary perspective, the Equality Challenge Unit, a UK and Scotland-focused organization dedicated to furthering equality and diversity in higher education, published a substantial literature review focused on unconscious bias in this unique context. This September 2013 document seeks to help institutions of higher education understand and address unconscious bias, particularly with respect to staff selection (Equality Challenge Unit, 2013).

Cognitive Neuroscience and Neurobiology

Studies from cognitive neuroscience continue to contribute to our understanding of implicit bias, particularly from research attention devoted to the amygdala. The amygdala is a small structure in the medial temporal lobe of the brain that is known for its role in race-related mental processes as well as responding to threat and fear (Davis & Whalen, 2001; A. J. Hart, et al., 2000; Pichon, et al., 2009; Whalen, et al., 2001). Previous studies have focused on the amygdala in order to understand the association between implicit racial bias and amygdala activity (Cunningham, et al., 2004) and the amygdala's response to various stimuli such as African American and Caucasian faces or skin tone variations (Lieberman, et al., 2005; Phelps, et al., 2000; Ronquillo, et al., 2007).

One of the latest additions to this literature considered the neurodevelopmental trajectory of the amygdala by studying how it responded to racial stimuli in children and adolescents (age 4–16). While previous research had documented the presence of implicit racial biases in children as young as six years old (Baron & Banaji, 2006), Telzer and colleagues sought to understand the development of amygdala sensitivity to race with respect to age. Results indicated that the amygdala becomes increasingly sensitive to African American faces with age, displaying a significant differential response (vs. European American faces) around age 14 (Telzer, Humphreys, Shapiro, & Tottenham, 2013). In short, the amygdala does not appear to be sensitive to African American faces until adolescence, meaning that "amygdala responsivity to race is likely the result of a developmental process

in which the amygdala acquires emotional knowledge learned over development" (Telzer, et al., 2013, p. 241).

Beyond amygdala-based work, an experiment by Sylvia Terbeck et al. studied implicit racial bias from a neurobiological perspective by investigating the connection between implicit racial attitudes and noradrenergic mechanisms. In a double-blind, parallel group design, participants received either an oral dose of propranolol (a beta-adrenoceptor antagonist) or a placebo. Based on previous literature, the authors hypothesized that propranolol, which is a beta-adrenoceptor blocker, should reduce implicit racial bias because beta-adrenoceptor receptors are known to have an effect on emotional perception and memory. Findings indicated that while propranolol had no effect on explicit biases, it significantly reduced implicit racial bias, thereby supporting the researchers' hypothesis (Terbeck, et al., 2012). While additional research is needed to further understand the nuances of these results, the authors closed by optimistically declaring that "the influence of propranolol on implicit attitudes observed in the present study may shed new light on the neurobiological mechanisms underlying implicit prejudice" (Terbeck, et al., 2012, p. 423).

Exploring neural and autonomic responses, a study by Azevedo and colleagues used a sample of Italian participants (both White-Caucasian and Black-African) to assess how group membership and racial attitudes affect empathy for pain. Findings indicated that IAT scores could "predict affective-motivational brain responses to the pain of different race individuals," while measures of explicit bias did not show this relationship (Azevedo, et al., 2013, p. 3178).

Finally, Brosch, Bar-David, and Phelps conducted a functional magnetic resonance imaging (fMRI) study and employed a multivoxel pattern analysis to investigate whether implicit race bias affects how our brains perceive information about social groups. Researchers concluded that the brain represents Black and White faces differently in individuals who hold strong implicit pro-White biases compared to those with less or no bias (Brosch, Bar-David, & Phelps, 2013). This suggests that "stronger race bias may actually be associated with larger differences in the perceptual experience of Black and White faces" (Brosch, et al., 2013, p. 164).

The Implicit Association Test

Despite extensive previous literature exploring the reliability (see, e.g., Bosson, et al., 2000; Dasgupta & Greenwald, 2001; Greenwald & Farnham, 2000; Greenwald & Nosek, 2001; Kang & Lane, 2010; Nosek, Greenwald, et al., 2007) and validity (for overviews and meta-analyses, see Greenwald; Greenwald, et al., 2009; Jost, et al., 2009) of the IAT, it continues to be scrutinized. Two recent articles present skeptical views related to the IAT's predictive validity and implications for interracial interactions, respectively.

First, Frederick L. Oswald and colleagues conducted a meta-analysis in which they analyzed the predictive validity of the IAT with a focus on racial and ethnic discrimination. After considering a range of implicit beliefs, explicit beliefs, and actual behaviors, the researchers asserted that while the IAT correlated strongly with measures of brain activity, other criterion measures related to race and ethnicity proved weak (Oswald, Mitchell, Blanton, Jaccard, & Tetlock, 2013). Moreover, with the exception of brain activity, the IAT performance was roughly equivalent to that of explicit measures, which calls into question what insights the IAT provides with respect to this focus on discrimination (Oswald, et al., 2013). The findings from this study run contrary to a previous meta-analysis by Greenwald et al. in which the predictive validity of the IAT prevailed over data from self-reports (Greenwald, et al., 2009).

Second, with a focus on intergroup relations, Jacquie D. Vorauer considered whether completing a race-based IAT affected White Canadian participants' subsequent interactions with an out-group (Aboriginal) individual. This research indicated that the Aboriginal partners felt less positively regarded if the White participant had just finished a race-based IAT (Vorauer, 2012). Evidence suggested that this less positive regard stemmed from the White participants embracing a cautious approach to the interracial interaction, as well as the race-based IAT making White participants seem less in control or influential during the discussion according to their Aboriginal partners. As a broader caution related to the use of the IAT, these results "suggest that being alerted to potential bias and limited response control through a direct personal experience such as that provided by the IAT... can lead to worse rather than better behavioral regulation," thereby potentially harming ensuing intergroup interactions (Vorauer, 2012, p. 1173).

Conversely, two studies considered the use of the IAT as an educational tool and touted its merits. A short article by Casad et al. used a college student sample to show that while people may be initially skeptical of the IAT's accuracy, providing knowledge of the methodological and theoretical foundation of the IAT increased students' acceptance of the IAT as a valid measure of prejudice (Casad, Flores, & Didway, 2013). The study also provided insights into the explanations employed initially to discredit the IAT, which the authors assert undoubtedly stems from individuals' unwillingness to see themselves as biased (Casad, et al., 2013). Second, Hilliard et al. extended previous research by presenting further evidence that the use of an IAT can be a valuable educational tool for students with varying levels of implicit racial bias (Hilliard, Ryan, & Gervais, 2013).

Finally, among those chiming in recently to defend the IAT was Fisher and Borgida. In their 2012 commentary that addressed implicit bias and intergroup disparities, they acknowledged criticisms of the IAT and discussed the literature that has responded to these critiques, ultimately concluding that "we do not believe this controversy [over the IAT's validity] is sufficient reason to dismiss implicit bias as an account for real-world racial and gender disparities in various social contexts" (Fisher & Borgida, 2012, p. 395).

An "Un-conference" on Implicit Bias

The Women's Place sponsored an engaging conference on implicit bias on September 11, 2013 that focused on the theme, "What conversations about implicit bias do we need to have at Ohio State?". Deemed an "un-conference," this participant-driven event allowed the approximately 50 attendees to generate questions or issues related to implicit bias and then self-select into small group discussions on those topics. Ten themes emerged, including how to make awareness of implicit bias and its effects sustainable and actionable, building a persuasive business case regarding the impact of implicit biases, and how to expand the range of individuals who acknowledge, understand, and engage on these issues, among others. The event concluded with a plenary session in which a representative from each session shared the main ideas that emerged from the discussion.

The year 2013 also yielded new, modified versions of the Implicit Association Test. Beattie and colleagues devised a multi-ethnic IAT in which participants are presented with a variety of photographs of White and non-White individuals representing a range of adult ages (Beattie, et al., 2013). Unlike typical IATs, this version of the test also included only smiling faces with a natural-looking appearance of moderate attractiveness.

Another variation on the IAT appeared in an article published in the *Journal of Experimental Social Psychology*. Soderberg and Sherman acknowledged that while the IAT focuses on a single target face in each prompt of the various IAT sorting tasks, in real life we often encounter multiple individuals simultaneously. They sought to understand the influence of racially homogenous and racially diverse contexts on implicit racial bias using a flanker-IAT task in which targets were surrounded by either racially congruent or incongruent faces. Findings indicated that the presence of other people in a visual scene affected implicit bias towards target individuals in social contexts. Specifically, Black and White targets in racially homogenous contexts increased participants' implicit biases; however, when participants viewed targets in racially diverse contexts, implicit bias decreased. The authors closed the article by considering that diverse contexts may be an effective means to reduce prejudice in everyday life (Soderberg & Sherman, 2013). This reflection on bias reduction aligns well with the debiasing techniques discussed in the next subsection.

Debiasing

In light of Amodio and Mendoza's declaration that the "holy grail of implicit race bias research is to change the underlying associations that form the basis of implicit bias," it is unsurprising that research on various debiasing techniques and

interventions remains a prominent area of scholarly inquiry, as evidenced by the new literature summarized in this subsection (D. M. Amodio & Mendoza, 2010, p. 362).

A 2013 publication by Shih, Stotzer, and Gutiérrez focused on exploring whether implicit bias against Asian Americans could be reduced by inducing empathy. Previous research had established that empathy induction improved explicit attitudes toward Asian Americans (M. Shih, Wang, Bucher, & Stotzer, 2009); therefore, the authors sought to establish whether implicit biases could also be swayed through this technique. The European American participants watched a three minute clip from the movie The Joy Luck Club and then completed a computer task in which they evaluated good and bad adjectives while being subliminally primed with ingroup and outgroup pronouns (e.g., "us" or "them"). Results showed that participants who were asked to take the perspective of the Asian American movie characters (i.e., empathize with them) showed decreased group bias on the implicit measure (M. J. Shih, Stotzer, & Gutiérrez, 2013). The authors conclude that inducing empathy may be an effective approach for decreasing implicit group bias (M. J. Shih, et al., 2013).

Another 2013 debiasing study considered whether forging links between oneself and outgroup members would reduce implicit prejudice and/or stereotyping. Using a sample of White students who performed manipulations in which they classified Black individuals as part of their group, the results indicated that forming connections with outgroup members reduced implicit prejudice, but not implicit stereotyping (Woodcock & Monteith, 2013). The self-linking strategy reduced implicit bias levels regardless of the participants' explicit biases. The authors reflect on this debiasing technique of building repeated associations between the self and outgroup members as particularly important given that these opportunities for heterogeneous group associations are and will become increasingly common as the U.S. demographic landscape continues to diversify.

Also considering interpersonal connections, through a set of experiments, Brannon and Walton discovered that non-Latino female participants who felt a social connection to and worked with a Mexican American peer on a cultural task without any external coercion showed reduced implicit prejudice against Latinos (Brannon & Walton, 2013). Moreover, the positive intergroup attitudes fostered by this experience persisted six months later. This work connects to previous literature on how intergroup contact can decrease implicit biases (Allport, 1954; Pettigrew, 1997; Pettigrew & Tropp, 2006, 2011).

Focusing on health care providers, Chapman and colleagues' review of implicit bias research from the medical domain led them to endorse several previously-established debiasing techniques. First, they call on physicians to understand implicit biases as a "habit of mind," regarding awareness of one's susceptibility to implicit associations as a key to behavioral changes (Chapman, et al., 2013, p. 1508). They further advocate for individuating patients, which involves con-

sciously focusing on their unique traits rather than the social categories to which they belong (see also Betancourt, 2004; D. Burgess, et al., 2007; Carillo, Green, & Betancourt, 1999; White III, 2011). They also support envisioning the viewpoint of others via perspective-taking, a debiasing technique that other researchers have also found effective for mitigating the effects of implicit bias (see, e.g., Benforado & Hanson, 2008; Galinsky & Moskowitz, 2000).

Finally, a particularly vast and uniquely-designed study by Calvin K. Lai and 23 of his colleagues sought to determine the effectiveness of various methods for reducing implicit bias. Structured as a research contest, teams of scholars were given five minutes in which to enact interventions that they believed would reduce implicit preferences for Whites compared to Blacks, as measured by the IAT, with the goal of attaining IAT scores that reflect a lack of implicit preference for either of the two groups. Teams submitted 18 interventions that were tested approximately two times across three studies, totaling 11,868 non-Black participants. Half of the interventions were effective at reducing the implicit bias that favors Whites over Blacks (Lai, et al., 2013). Among those that demonstrated effectiveness in this study were the following, listed from most effective to least effective:

■ *Shifting Group Boundaries through Competition:* Participants engaged in a dodgeball game in which all of their teammates were Black while the opposing team was an all-White collective that engaged in unfair play. Participants were instructed to think positive thoughts about Blackness and recall how their Black teammates helped them while their White opponents did not.

■ *Vivid Counterstereotypic Scenario:* Participants read a graphic story in which they are to place themselves in the role of the victim who is assaulted by a White man and rescued by a Black man. Aiming to affirm the association that White = bad and Black = good, in each test of this intervention, the scenario was longer and enhanced by more detailed and dramatic imagery. Across three studies, this vivid counterstereotypic scenario substantially reduced implicit preferences among participants.

■ *Practicing an IAT with Counterstereotypic Exemplars:* Previous research established that exposure to pro-Black exemplars (e.g., Michael Jordan, Martin Luther King, Jr.) and negative White exemplars (e.g., Timothy McVeigh, Jeffrey Dahmer) decreases the automatic White preferences effect (Dasgupta & Greenwald, 2001). This effective contest intervention used these counterstereotypic primes and combined them with repeated practice of IAT trials in which participants were to pair Black faces with Good and White faces with Bad.

■ *Priming Multiculturalism:* In contrast to the colorblind perspective common in society, participants in this intervention were encouraged to adopt a multicultural perspective. They read a piece that advocated for multiculturalism, summarized it, and gave two reasons that supported a multicultural approach to interethnic relations. With this multicultural prime in mind, and while asked to

focus on Black = good, IAT results showed that this intervention decreased implicit preferences for Whites.

■ *Evaluative Conditioning with the GNAT:* A modified version of the Go/No-Go Association Task was used for another successful intervention (for more information on the GNAT, see Nosek & Banaji, 2001). Participants were instructed to respond to stimuli or abstain from doing so based on the pairings presented to them, such as a responding when a Black person was paired with a good word, but refraining when a good word was paired with a non-Black person.

■ *Faking the IAT:* Another intervention reduced participant implicit bias by instructing them to "fake out" the IAT by manipulating their reactions so that they associated White = Bad more quickly than they reacted to Black = Bad. (Other scholarship has considered whether individuals can "fake out" the IAT, including Cvencek, Greenwald, Brown, Gray, & Snowden, 2010; Egloff & Schmukle, 2002; Fiedler & Bluemke, 2005; Fiedler, Messner, & Bluemke, 2006; Kim, 2003; Steffens, 2004.)

■ *Shifting Group Affiliations Under Threat:* Upon reading a vivid post-apocalyptic scenario, subjects who saw faces of Blacks who were friendly and/or valuable in alliances for survival, as well as faces of White "enemies" showed decreased implicit bias.

■ *Using Implementation Intentions:* When told to embrace the intention to respond to Black faces by thinking "good" on the IAT, the establishment of this "if-then" mental plan before taking the IAT lowered implicit bias against Blacks.

■ *Evaluative Conditioning:* Participants repeatedly saw pairings of Black faces with positive words, and White faces with negative words. When asked to memorize the words as they appeared on the screen, implicit biases decreased.

Broadly speaking, this research affirms the debiasing effectiveness of exposure to counterstereotypical exemplars, using intentionality to reduce bias, and evaluative conditioning. The novel approach to this study and its findings gathered media attention from NPR (Vedantam, 2013a).

Books

As mentioned in the Introduction, two major names in the implicit bias realm, Mahzarin R. Banaji and Anthony G. Greenwald, collaborated to publish a book on implicit bias titled *Blindspot: Hidden Biases of Good People*. The "good people" noted in the subtitle refers to well-intentioned individuals who attempt to align their actions with their intentions. Often thwarting these efforts are what Banaji and Greenwald call "mindbugs," which are the "ingrained habits of thought that

lead to errors in how we perceive, remember, reason, and make decisions" (Banaji & Greenwald, 2013, p. 4). Seeing mindbugs as a key barrier between individuals' minds and actions, the authors introduce readers to the Implicit Association Test (IAT) and its workings, sharing the findings from numerous studies intermingled with personal anecdotes and insights. The book generated considerable media attention from a range of sources both in the U.S. and abroad (see, e.g., Camacho, 2013; Galloway, 2013; Hutson, 2013; Smiley, 2013; Vedantam, 2013b). In short, Blindspot is an accessible introduction to the science of implicit bias and gives readers plenty to contemplate regarding their own mindbugs and how those mindbugs affect their perceptions, decisions, and actions.

Another implicit bias book that debuted in 2013 was *Our Racist Heart?* by psychologist Geoffrey Beattie. With a focus on implicit prejudice in British society, Beattie's latest book exposes the role of implicit biases in everyday life and acknowledges how those biases can affect a range of social situations, such as the employment process (Beattie, 2013). Some of the insights from this book are summarized in Chapter 4 of this document.

Other

Several broader publications merit mention.

A few articles considered the role of implicit bias in the 2008 presidential election. Most broadly, Glaser and Finn considered implicit racial attitudes and voting behavior, connecting implicit bias research to political psychology (Glaser & Finn, 2013). Two other articles employed the Affect Misattribution Procedure (AMP) to measure implicit attitudes (for further information on the AMP, see Payne, Cheng, Govorun, & Stewart, 2005). Kalmoe and Piston question whether implicit prejudice is politically consequential in light of finding very little support for the claim that implicit prejudice measured by the AMP had an effect on the 2008 presidential election when examining electoral behavior, candidate evaluations, and racial policy attitudes (Kalmoe & Piston, 2013). Similarly, Ditonto, Lau, and Sears used 2008 American National Election Studies (ANES) survey to assess the role of racism on public opinion in that year's presidential election. The AMP measure of implicit bias yielded mixed results, as the Latino sample showed a consistent significant effect of implicit prejudice, but not the Black or White samples (Ditonto, Lau, & Sears, 2013).

A third article used the Affective Lexical Priming Score (ALPS) rather than the AMP to assess the effect of President Obama's 2008 election. Across four laboratory experiments, U.S. students who had held negative associations with Black faces prior to the election later showed positive associations with Black faces post-election, whereas Canadian participants did not exhibit this shift (Roos, et al., 2013). Generally speaking, this finding of decreased implicit prejudice post-election con-

trasts with previous work by Schmidt and Nosek but aligns with an earlier article by Plant and colleagues (Plant, et al., 2009; Schmidt & Nosek, 2010).

Beyond election-focused studies, a piece by john a. powell placed implicit bias in a broader societal context by considering two main approaches to how we understand race (implicit bias and structural racialization). He provided insights to the philanthropic community on how to bridge the apparent tensions that exist between the two (powell, 2013).

Using the Ultimatum Game in which players accept or reject splits of a $10 sum proposed by another individual, participants accepted more offers proposed by White proposers than Black and accepted offers of a lower value from White proposers than from Black proposers (Kubota, Li, Bar-David, Banaji, & Phelps, Forthcoming). Using the IAT, the researchers found that greater levels of implicit race bias against Blacks predicted participants' likelihood of accepting fewer offers from Black as opposed to White proposers, even while controlling for other factors.

Finally, Tetlock, Mitchell, and Anastasopoulos considered how ideology affects perceptions of technologies used to detect unconscious biases. Among their experimental results, they find widespread opposition to legal action that sanctions implicitly biased individuals, regardless of ideology (Tetlock, Mitchell, & Anastasopoulos, 2013). The authors also consider possible legal and policy implications of what they regard as "mind-reading technology" (Tetlock, et al., 2013, p. 84).

CHAPTER THREE

Trends in the Field – 2013

"EVERY DAY, AUTOMATIC PREFERENCES STEER US TOWARD LESS CONSCIOUS DECISIONS, BUT THEY ARE HARD TO EXPLAIN BECAUSE ***THEY REMAIN IMPERVIOUS TO THE PROBES OF CONSCIOUS MOTIVATION****."*

Dr. Mahzarin R. Banaji and Dr. Anthony G. Greenwald, 2013, p. 55

While identifying trends is to some degree a subjective endeavor, this chapter nevertheless seeks to identify some of the developments in the field of implicit bias from the past year. These trends are divided broadly into two categories, the public domain and the academic realm, though these groupings are not necessarily mutually exclusive.

THE PUBLIC DOMAIN

2013 proved to be a momentous year in terms of the proliferation of implicit bias science into the public discourse. The acquittal of George Zimmerman in the second degree murder trial for the death of 17-year-old Trayvon Martin sparked conversations on an assortment of socially sensitive topics, including race relations, Stand Your Ground laws, and, importantly, the ways in which implicit racial biases may have influenced the confrontation, trial, and verdict. Commentators weighed in on the role of implicit bias in this highly-publicized case through an assortment of media and communications outlets. Bloggers, opinion columnists, and analysts—both academic and lay—provided personalized assessments of the case and verdict that incorporated the concept of implicit bias (among many others, see, for e.g., Aalai, 2013; Andrews, 2013; Gabriel, 2013; Paterson, 2013; Richardson, 2011; Sen, 2013; J. Steele, 2013; Wiley, 2013; Willis, 2013). Several of the so-called Sunday morning "talking heads" devoted segments of their shows to discussion and commentary related to implicit bias soon after the verdict was rendered (see, e.g., Harris-Perry, 2013; Kornacki, 2013). Furthermore, a few academic journal articles have already been published that use the Zimmerman-Martin altercation as a backdrop for legal and social psychological analyses, with more almost surely forthcoming as the publishing cycle progresses (see, e.g., Feingold & Lorang, 2013; C. Lee, 2013). Discussions about implicit racial bias in these venues, among others, signal a perceptible uptick in the public's awareness of implicit bias and its implications.

Beyond the Zimmerman verdict, the concept of implicit bias also gained the public's attention in the aftermath of racially-insensitive remarks uttered by professional athletes. Among those sparking this dialogue in 2013 were PGA golfer Sergio Garcia and NFL wide receiver Riley Cooper. Commentators embraced these unfortunate statements as a learning opportunity to discuss how implicit racial biases that are unconscious can nevertheless affect real world behaviors (see, e.g., Groves, 2013; Washington, 2013).

Implicit biases other than those related to race also sparked dialogue in 2013. One study that provoked strong reactions and discussions used a modified version of the IAT to assess medical students' implicit preferences for "fat" or "thin" individuals. Researchers found that over one-third of the future medical professionals in their sample possessed a significant anti-fat bias (Miller Jr., et al., 2013). As one might imagine, the finding that two out of five medical students hold unconscious biases against obese individuals prompted a considerable response and was discussed widely in the public sphere (see, e.g., Gillson, 2013; Matilda, 2013; Palca, 2013). More broadly, though, this study represents yet another contribution to the literature that considers how implicit biases can potentially affect the quality of care patients receive.

While not necessarily a new trend, it is worthwhile to note the proliferation of implicit bias information through audio and audiovisual mediums. YouTube clips of varying lengths have been employed as an avenue to introduce ideas and share information on implicit bias (see, e.g., Diversity Partners, 2013; Fujii, 2013; Kandola, 2013; Ohio State University Human Resources, 2013; H. Ross, 2013). Others have turned to podcasting, allowing them to disseminate implicit bias knowledge in a format that grants listeners considerable mobility (see, e.g., Reeves, 2013a, 2013b; Saul & Warburton, 2013). Sharing information via these less-traditional routes allows the research to reach a broader audience.

Finally, in an important effort that bridges the academic and public realms, a Fair and Impartial Policing program teaches law enforcement officials to combat their implicit biases. The training program, created by University of South Florida criminology professor Lorie Fridell, employs a science-based approach to educating officers to become aware of their own implicit biases and the effects thereof, reduce those biases, and keep those biases from influencing their job performance (Engasser, 2013). The training also focuses on contact theory, endorsing the idea that individual-level intergroup interactions can reduce prejudice and stereotyping (see also Allport, 1954; Peruche & Plant, 2006). There are five Fair and Impartial Policing curricula that focus on specific audiences, ranging from recruits to various ranks of managers and supervisors, as well as other law enforcement trainers (Fridell, 2013). This program has already gained considerable traction. It has received $1 million in grants from the U.S. Department of Justice (Melendez, 2013; Vander Velde, 2013). Moreover, recognizing the importance of education that uplifts implicit bias research, several states are currently moving towards adopting the Fair and Impartial Policing curricula (Engasser, 2013; Fridell, 2013).

THE ACADEMIC REALM

Another trend that has begun to appear in the academic literature is the publication of implicit racial bias articles that extend beyond the typical Black-White paradigm. Several recent studies have featured groups other than Blacks and Whites, most notably Latinos and Asians. For example, Irene V. Blair and colleagues' work on implicit racial bias among health care providers included the experiences of Latino patients (Blair, Havranek, et al., 2013; Blair, Steiner, et al., 2013). Ditonto, Lau, and Sears included a Latino sample in their exploration of how implicit racial attitudes influenced political behavior in the 2008 presidential election (Ditonto, et al., 2013). Sadler et al. expanded the research shooter bias by including Latino and Asian targets in the shoot/don't shoot simulations (Sadler, et al., 2012). Finally, Garza and Gasquoine explored the implicit prejudices of a specific subset of Latinos, Mexican Americans (Garza & Gasquoine, 2013). This addition of new racial and ethnic groups to the implicit bias literature represents both a natural progression and needed expansion of knowledge.

Representations of bodies and the concept of embodiment also proved to be a research avenue of interest. More specifically, two articles published in 2013 investigated how implicit racial biases may be reduced through individuals seeing themselves (or representations thereof) in different skin. First, with video games as an inspiration, Peck et al. used immersive virtual reality to create an illusion in which participants' bodies appeared to have a different skin color. Specifically, they found that when light-skinned female participants of Spanish origin embodied a dark-skinned avatar, their implicit bias against dark-skinned people decreased (Peck, Seinfeld, Aglioti, & Slater, 2013). Conversely, other skin tones, such as the embodiment of alien-like purple skin tone, the embodiment of light skin, or a non-embodied dark-skinned figure did not change participants' implicit biases. The authors caution that further research is needed, as the variable 'nervous' appeared to mediate some of the findings. Nevertheless, the work by Peck et al. provides a notable contrast to previous immersive virtual environment research in which the embodiment of Black avatars was associated with greater implicit racial bias rather than less (Groom, Bailenson, & Nass, 2009).

Second, research by Maister et al. employed a unique approach in which a rubber hand illusion was used to deliver multisensory stimulation to light-skinned Caucasian participants. This technique prompted participants to feel as though the dark-skinned rubber hand they saw was actually their real hand. Researchers found that experiencing ownership over a dark-skinned hand decreased the implicit racial biases of the light-skinned Caucasian participants (Maister, Sebanz, Knoblich, & Tsakiris, 2013).

These novel research designs employed by Peck, Maister, and their respective research teams are a testament to the creative approaches implicit bias scholars are embracing to shed further light on the operation of this cognitive phenomenon. In their own ways, both of these studies transform group affiliation, blurring the lines between "the self" and "the other." Maister and colleagues capture the under-

lying principles of these two studies well when they write, "These findings suggest that an increase in overlap between the self and other, induced by a change in body representation, was able to alter the perceived boundaries between ingroup and outgroup to modulate high-level social attitudes" (Maister, et al., 2013, p. 176). Peck et al. share a similar sentiment regarding this strain of research. They state that being able to transfer someone to a different in-group can be a powerful technique for transforming individuals' group affiliations (Peck, et al., 2013).

OTHER SCHOLARSHIP

Although outside of the racial and ethnic focus of this Review, it is worthwhile to note that implicit bias science, particularly use of the IAT, has expanded to new (and perhaps unexpected) realms. Recent research published in Social Behavior and Personality used the IAT to assess whether evaluative conditioning could alter implicit attitudes towards recycling (Geng, Liu, Xu, Zhou, & Fang, 2013). Similar work considered whether implicit attitudes can be useful for promoting green consumer behavior (Zimmerman, 2013).

In the health domain, research by Schiller et al. explored both explicit and implicit attitudes about lung cancer relative to breast cancer, finding evidence of lung cancer stigma using both explicit and implicit measures (Schiller, et al., 2013). These studies, among others, signal the untapped range of possible scholarship that implicit bias knowledge presents.

4

CHAPTER FOUR

Employment

"…EVEN THE MOST WELL-MEANING PERSON UNWITTINGLY ALLOWS UNCONSCIOUS THOUGHTS AND FEELINGS TO INFLUENCE SEEMINGLY OBJECTIVE DECISIONS. ***THESE FLAWED JUDGMENTS ARE ETHICALLY PROBLEMATIC AND UNDERMINE MANAGERS' FUNDAMENTAL WORK****—TO RECRUIT AND RETAIN SUPERIOR TALENT, BOOST THE PERFORMANCE OF INDIVIDUALS AND TEAMS, AND COLLABORATE EFFECTIVELY WITH PARTNERS."*

Dr. Mahzarin R. Banaji, Dr. Max H. Bazerman, and Dr. Dolly Chugh, 2003, p. 56

The employment realm, with all of its complex processes and multiple key actors, is another domain in which implicit racial bias not only exists, but can flourish. In fact, a March 2013 report released by the U.S. Equal Employment Opportunity Commission listed "unconscious bias and perceptions about African Americans" as one of the seven "major obstacles hindering equal opportunities for African Americans in the federal work force," boldly declaring that the more subtle discrimination that exists in our current society "can often be directly attributable to unconscious bias" (*EEOC African American Workgroup Report*, 2013; "New EEOC Report Examines Obstacles Facing African Americans in Federal Workplace," 2013). Some scholars note the growing assertion that unconscious bias is the most pervasive and important form of discrimination in society today, particularly in the workplace (Katz, 2007; Wax, 1999).

Indeed, implicit bias can permeate the employment process at many stages, such as those discussed in this chapter. Even well-meaning individuals who profess egalitarian values may hold implicit biases that result in negative employment consequences for minorities (Katz, 2007). In a short article in *HR Review*, Raj Tulsiani regards unconscious bias as a "disease," noting that recruitment consultants and others who analyze CVs (particularly those CVs that reflect non-traditional career paths) may be influenced by unconscious bias, and organizations must be proactive to mitigate its unfortunate effects on minority candidates (Tulsiani, 2013). Green and Kalev caution that we must be aware of implicit biases not only

in moments of decision making (such as when hiring new employees) but also during everyday workplace interactions (T. K. Green & Kalev, 2008). We now turn to more specific aspects of the employment domain to examine how implicit racial bias can operate across various contexts.

INGROUP BIAS AND NEBULOUS NOTIONS OF BEING A GOOD "FIT" FOR A POSITION

One overarching concern in the employment realm is the introduction of implicit bias through ingroup bias wherein people who are 'one of us' (i.e., our ingroup) are favored compared to those in the outgroup, meaning those who differ from ourselves (Greenwald & Krieger, 2006). Ingroup favoritism is associated with feelings of trust and positive regard for ingroup members and surfaces often on measures of implicit bias (see, e.g., Greenwald, et al., 1998).

In terms of employment, ingroup bias can compel people to favor those who are most similar to themselves, thereby leading to a tendency for bosses and other human resources personnel to hire, promote, or otherwise esteem those who mirror attributes or qualities that align with their own (Banaji, Bazerman, & Chugh, 2003; Bendick Jr. & Nunes, 2012). Colloquial terms associated with this phenomenon include "like-for-like," fostering a "mini me" culture, finding someone who fulfills the nebulous and elusive notions of being a good "fit" for a given position, or identifying someone with whom you have "chemistry" (Luscombe, 2012; Peacock, 2013a, 2013b; H. Ross, 2008; Shah, 2010; Tulsiani, 2013).

Critically analyzing this concept of "fit" and "cultural matching," a 2012 article by Lauren A. Rivera argued that hiring is more than just finding the most qualified candidate; rather, it relies heavily on cultural matching. More specifically, and quite alarmingly, in Rivera's study on the hiring practices of elite employers, she finds that "Evaluators described fit as being one of the three most important criteria they used to assess candidates in job interviews; more than half reported it was the most important criterion at the job interview stage, rating fit over analytical thinking and communication" (Rivera, 2012).

Finally, quoted in *The New York Times*, behavior expert Ori Brafman echoed these ingroup bias concerns more broadly, asserting that "Time and again, the research shows that interviews are poor predictors of job performance because we tend to hire people we think are similar to us rather than those who are objectively going to do a good job" (Alboher, 2008).

ANTI-DISCRIMINATION LAW – TITLE VII

In the years since Title VII, human resource professionals and hiring managers have been expected to conduct hiring searches that are free from bias and discrimination. As part of the Civil Rights Act of 1964, Title VII explicitly articulates unlawful practices that cover a broad range of employment-related situations, such as:

Section 703. (a) "It shall be an unlawful employment practice for an employer –

(1) to fail or refuse to hire or to discharge any individual, or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, or national origin; or

(2) to limit, segregate, or classify his employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, sex, or national origin." (Title VII of the Civil Rights Act of 1964)

Many scholars have contended that the current body of anti-discrimination laws are ill-equipped to address or affect implicitly biased behaviors (see, e.g., Bagenstos, 2006; Krieger, 1995). This argument has also been put forth in the employment context. For example, Strauss writes, "Unconscious bias challenges antidiscrimination law because it implies that individuals treat women and minorities in a disparate manner, resulting in negative employment decisions, when they are oblivious to doing so" (see also Jolls & Sunstein, 2006; Strauss, 2013). On a related note, Wexler and colleagues do not challenge the existence of implicit bias but contend that "it has no place in today's legal landscape" because its measures of reliability and validity are, in their view, "insufficient to prove liability in either a disparate treatment or a disparate impact claim under Title VII" (Wexler, Bogard, Totten, & Damrell, 2013).

Conversely, others assert their belief in Title VII's ability to handle unconscious discrimination. Hart argues that "the existing Title VII framework provides significant potential for challenging unconscious discrimination" (M. Hart, 2005, p. 745). Jolls declares that these laws can have the effect of reducing implicit bias in important ways. Specifically, in the employment realm she reflects on how anti-discrimination laws' prohibition on discriminatory hiring, firing, and promotions can reduce implicit workplace bias through increasing the representation of protected groups to create a diverse workforce (Jolls, 2007). Lee goes a step farther and parses out specific strategies for introducing unconscious bias to employment discrimination litigation, ultimately declaring that the disparate treatment aspect of Title VII (as opposed to disparate impact) may be the most practical approach (A. J. Lee, 2005).

UNCOVERING BIAS BY USING FICTITIOUS RESUMES

Researchers have found the use of fictitious resumes to be a valuable method for gaining insights on how implicit biases can taint the very first step in the hiring process—sorting resumes and other application materials into categories that distinguish potential candidates from those who do not merit further consideration.

One popular and oft-cited study on racial discrimination in the labor market is a 2004 article by Bertrand and Mullainathan. In a field experiment, the researchers responded to over 1,300 help-wanted ads in Chicago and Boston newspapers by sending fictitious resumes featuring randomly assigned African American- or White-sounding names. In addition to modifying the applicants' names, they also experimentally varied the quality of the resumes. The resumes of higher quality applicants reflected a longer work history with fewer employment gaps, a relevant certification, foreign language skills, and/or honors that the lower quality applicants lacked. This manipulation of resume quality was carefully handled so that high quality applicants did not risk appearing overqualified for a given position. Researchers responded to each ad with four resumes (a high quality African American applicant, a low quality African American applicant, a high quality White applicant, and a low quality White applicant) that closely fit the job description.

The racial differences in callbacks were startling and statistically significant. Looking solely at the name manipulation, White-sounding names (e.g., Emily, Greg, Sarah, Todd) received 50 percent more callbacks for interviews than resumes with African American-sounding names (e.g., Lakisha, Jamal, Latoya, Tyrone) (Bertrand & Mullainathan, 2004). Putting this in perspective, "a White name yields as many more callbacks as an additional eight years of experience on a resume" (Bertrand & Mullainathan, 2004, p. 992). The researchers then analyzed how the racial gap in callbacks was affected by resume quality. Higher quality White resumes were 27 percent more likely to receive callbacks than lower quality White resumes; however, African American resumes did not experience the same gains with the improved credentials. An improved resume for an African American applicant only increased the likelihood of a callback by eight percent, which is not even a statistically significant difference from what the lower quality African American applicant received. After ruling out several other possible explanations for these disparities, including various job and employer characteristics, Bertrand and Mullainathan are left to conclude that race is a factor when reviewing resumes, and that even within the context of an identical job search, individuals with African American-sounding names receive fewer interviews.

As Jost et al., 2009 points out, Bertrand and Mullainathan's study does not provide absolute certainty that the discriminatory behavior documented resulted from implicit rather than explicit biases (Jost, et al., 2009). Nevertheless, the resume selection task "theoretically satisfies several criteria thought to be important for implicit discrimination to arise" (Bertrand, et al., 2005, pp. 95–96). These include time pressures wherein the hiring managers must sort through large quantities of

applications in a timely manner, ambiguity from the lack of a simple formula that plainly distinguishes "good" applicants from the other candidates, and minimal accountability in that little justification or explanation is required when differentiating potential hires from those discarded (Bertrand, et al., 2005). Moreover, two subsequent resume-focused studies discussed below provide further evidence that race-based hiring biases are likely to be linked to implicit bias.

First, in a pilot test conducted by Bertrand, Chugh, and Mullainathan, student participants were asked to screen 50 resumes and select those that they believed were the 15 best candidates. Mirroring Bertrand and Mullainathan's study design, each resume had been randomly assigned a first name that was either White-sounding or Black-sounding. Findings indicated that while no correlation emerged between the number of African American resumes selected and the participants' explicit attitudes toward African Americans; however, individuals' implicit attitudes about intelligence in Blacks and Whites correlated with the number of African American resumes subjects selected, particularly for individuals who felt rushed during the task (Bertrand, et al., 2005).

Second, exploring this phenomenon outside of the U.S. context, other researchers have found similar unconscious biases against various groups when examining resumes. Carlsson and Rooth (2007) uncovered implicitly discriminatory behavior among Swedish employers when they studied the callback rate of applications for fictitious individuals. Employing a research design similar to Bertrand and Mullainathan (2004), Rooth submitted comparable applications using either common Swedish or Middle Eastern-sounding male names for a range of highly skilled or unskilled occupations. Of the 3,104 applications distributed to 1,552 employers, in 283 cases only one of the two individuals was offered an interview; Middle Eastern candidates had a callback rate that was, on average, 50% lower compared to the applications bearing Swedish-sounding names, despite all other aspects of the applications being comparable (Carlsson & Rooth, 2007).

Following up on this research several months later, Rooth located a subset of the employers/recruiters from the aforementioned Carlsson and Rooth (2007) study and measured recruiters' explicit and implicit attitudes and performance stereotypes of Swedish and Middle Eastern male workers. Results suggested a strong and statistically significant negative correlation between implicit performance stereotypes (e.g., Swedes as hardworking and efficient vs. Arabs as lazy and slow) and the callback rate for applicants with Arab/Muslim sounding names (Rooth, 2007). More specifically, the probability that applicants with Arab/Muslim sounding names being invited for an interview declined by 6% when the recruiter had at least a moderate negative implicit stereotype towards Arab/Muslim men (Rooth, 2007). Beyond highlighting how implicit biases can color interview callback decisions, Rooth emphasized that this study also showed the predictive power of the IAT in hiring situations.

Geoffrey Beattie also used this fictitious resume approach to explore implicit biases in two 2013 publications. First, in his book, *Our Racist Heart?: An Exploration of Unconscious Prejudice in Everyday Life*, Beattie discussed an exploratory study that examined the eye movements ("gaze fixation points") of participants while they were looking at fictional CVs and applicant pictures related to a job posting. Beattie sought to understand whether there was a relationship between his British participants' implicit racial biases and their review of the CVs. He found that participants with higher implicit preferences for Whites compared to non-Whites spent more time looking at the positive information on the White candidates' CVs and less time looking at the positive information on the CVs of non-White candidates (Beattie, 2013). Based on this finding, Beattie concludes that "our implicit attitude would seem to be directing our unconscious eye movements to provide exactly the information it wants for a 'rational' decision. This is both extraordinary and very worrying" (Beattie, 2013, p. 241).

Second, Beattie collaborated with Doron Cohen and Laura McGuire to study British participants' implicit and explicit attitudes toward ethnic minorities in the context of selecting candidates to interview for specific jobs in higher education. White and non-White British participants reviewed CVs and photographs of comparable White and non-White candidates for an academic position and an administrative post. Using the multi-ethnic IAT described in Chapter 2, the researchers then compared participants' implicit ethnic bias scores with how they rated and prioritized candidates for interviews. Results showed that pro-White implicit attitudes predicted the interviewee candidates selected by White, but not non-White participants (Beattie, et al., 2013). Reflecting on the fact that the candidates' CVs for each position were similar except for the name and photograph on the CV, Beattie et al. declared that implicit ethnic bias is the only plausible explanation for why White candidates favored White applicants (Beattie, et al., 2013). They concluded with a range of policy suggestions to help counter the presence of implicit biases in resume review and interviewee selection, including assessing candidates using specific, pre-defined selection criteria, employing an ethnically diverse selection panel, and allowing plenty of time for decision making (Beattie, et al., 2013).

INTERVIEWS

For most jobs, employment interviews represent a key component of the hiring process. The judgments and decisions made by employers assessing job candidates during interviews comprise yet another realm in which implicit racial biases can creep into the selection process. Work by Segrest Purkiss and colleagues considered two ethnic cues that can evoke implicit biases in an interview setting—the presence or absence of speech accent, and whether or not the candidate has an "ethnic name"—to study the effects of these cues on interviewers' favorable judgments and decision to hire. This particular experiment focused on cues that would signal Hispanic ethnicity, specifically Spanish-accented English and a name that suggests Hispanic ethnicity (e.g., Miguel Fernandez compared to Michael Freder-

ickson). Utilizing a matched-guise technique to manipulate accent and ethnicity cues and controlling for several other factors, the researchers found that the interaction of applicant name and accent predicted favorable judgments of the applicant; the applicant with an ethnic name and accent was regarded the least positively (Segrest Purkiss, Perrewé, Gillespie, Mayes, & Ferris, 2006). The authors acknowledge that "subtle cues may be triggering unconscious or implicit forms of ethnicity bias in judgments and decisions" (Segrest Purkiss, et al., 2006, p. 155).

The interpersonal nature of interviews also allow for interviewers to evaluate candidates not only by the candidates' statements, but also through their nonverbal behaviors (Parsons & Liden, 1984; Parsons, Liden, & Bauer, 2009). Conversely, the verbal and nonverbal actions by interviewers can also affect candidates' performance. An article by Word et al. studied the behavior of White interviewers interacting with both Black and White applicants, finding that White interviewers placed more physical distance between themselves and Black applicants as opposed to White (Word, Zanna, & Cooper, 1974). White interviewers also spent 25% less time with Black applicants and made significantly more speech errors around them compared to the White job candidates (Word, et al., 1974). These kinds of nonverbal body language findings have been associated with the presence of implicit racial biases in more recent interracial interaction scholarship from non-interview contexts (see, e.g., Dovidio, et al., 2002; Fazio, et al., 1995).

PERCEPTIONS OF COMPETENCE DURING HIRING

Another aspect of the employment realm where implicit bias can lurk is when assessing an applicant's competence for a position. A study by Dovidio and Gaertner found that when evaluating candidates for a position as a peer counselor, White participants rated Black and White candidates equally when the candidates were either clearly well-qualified or poorly-qualified. However, when the candidates' qualifications were ambiguous, Black candidates received less strong recommendations and were recommended for hire less often than similarly situated White candidates (Dovidio & Gaertner, 2000). This finding aligns with other work that suggests that ambiguous situations can trigger reliance on implicit biases (Levinson & Young, 2010a; National Center for State Courts).

A 2001 experiment considered how the race and applicant quality can have effects on employment decisions and the actual decision makers' ability to recall the applicants' responses after the interview has concluded. While the research participants in the hiring role were shown to have selected Black and White candidates equally, the Black job applicants were remembered one week later as having given less intelligent answers, even though their actual responses were identical to the White applicants (Frazer & Wiersma, 2001). Frazer and Wiersma cite the cognitive sciences when explaining this discrepancy. Recognizing that schemas are mental shortcuts that allow us to quickly categorize individuals and associate meanings with those categories (for more on schemas, see Kang, 2009), the researchers note that the schema of 'Black person' was activated during the recall of

the Black applicants' interview. This particular schema likely provoked the social stereotype of Blacks being less intelligent than Whites (Frazer & Wiersma, 2001). The researchers presume that this negative schema was suppressed during the hiring decision phase that did not indicate any signs of prejudice but was later revealed through the unobtrusive recall measure.

THE ILLUSION OF OBJECTIVITY AND HIRING MANAGERS

Given the pervasiveness of implicit biases, it is not surprising that hiring managers are susceptible to the illusion of objectivity, which refers to the false impression that one may be free from biases, opinions, and other subjective influences (Armor, 1999). In a study by Ulhmann and Cohen, participants were asked to evaluate job candidates. Some participants were primed to view themselves as objective while others were not. Distressingly, the researchers found that "when people feel that they are objective, rational actors, they act on their group-based biases more rather than less" (Uhlmann & Cohen, 2007, p. 221). Other work declares that when implicit associations arise in the hiring process, "their predominantly negative content about traditionally excluded groups (e.g., African Americans are uneducated; women are not career-committed) handicap members of these groups in competing for jobs" (Bendick Jr. & Nunes, 2012, p. 240). Bendick and Nunes cite a plethora of reasons why individuals who make hiring decisions may truly believe their decisions are objective and unbiased when in reality their decision-making process is rife with implicit biases due to the unconscious influence of stereotypes (Bendick Jr. & Nunes, 2012).

HIRING DECISIONS

Ziegert and Hanges (2005) considered employment discrimination in the context of hiring decisions, specifically focusing on the role of implicit racist attitudes and motivation to control prejudice. Non-Black participants completed explicit attitude measures as well as a race-based IAT that uncovered a negative implicit bias toward Blacks among members of the sample. Participants then were placed in the role of a hiring manager and asked to evaluate the dossiers of eight job applicants. Two conditions existed—a climate for equality and a climate for racial bias (in which participates were provided a business-based justification for supporting racial discrimination). Researchers discovered that when a climate for racial bias existed, implicit racism interacted with this climate to predict discrimination (Ziegert & Hanges, 2005). Specifically, discrimination against Black job candidates was higher for more implicitly racist participants in the climate for racial bias condition (Ziegert & Hanges, 2005). The researchers also emphasize that the explicit measures of bias did not predict discrimination; however, the implicit measure did predict racially biased discriminatory actions.

PERCEPTIONS OF LEADERSHIP

One group that has been particularly studied with respect to perceptions of leadership is Asian Americans. Widely characterized as a well-educated, high achieving population, Asian Americans have often been stereotyped as a "model minority" (Cheryan & Bodenhausen, 2000; The Rise of Asian Americans, 2012). Despite these attributes, Asian Americans generally have not ascended to leadership positions in high numbers. For example, one report on the representation of Asians and Pacific Islanders (APIs) on the boards of Fortune 500 companies noted that APIs held only 135 (2.43%) of the 5,545 board seats, and 77.8% of Fortune 500 companies did not have any Asians or Pacific Islanders on their boards whatsoever (2011 API Representation on Fortune 500 Boards, 2011). Research has sought to understand how biases related to leadership may play a role in hindering the professional ascent of Asian Americans. Thomas Sy and colleagues found that when Asian Americans were in roles in which they were perceived to be more technically competent than Caucasian Americans (e.g., engineers), they were still perceived "to be less prototypic leaders" than Caucasians (Sy, et al., 2010). This finding aligns with previous work by Rosette et al., 2008, who found that "being White is an attribute of the business leader prototype" (Rosette, Leonardelli, & Phillips, 2008, p. 762). Others have noted that the perception of Asian Americans being passive can hinder their ability to be seen as leaders (Bridgeford, 2013). Expanding this exploration to other populations, results from an earlier study found that Caucasian Americans and Asian Americans were regarded as being more associated with the successful-manager prototype than African Americans or Hispanic Americans (Chung-Herrera & Lankau, 2005). In sum, unconscious racial and ethnic stereotypes regarding the attributes of various populations can manifest themselves in perceptions of leadership and what individuals are seen as leaders.

PERFORMANCE AND PERFORMANCE EVALUATIONS

Performance evaluations are another aspect of employment where implicit bias can arise, often to the detriment of non-White employees (Wax, 1999). Several studies have documented that Black and White evaluators assess members of their own racial group more highly on performance evaluations than employees of other races (Greenhaus, Parasuraman, & Wormley, 1990; Kraiger & Ford, 1985; Mount, Sytsma, Hazucha, & Holt, 1997). This research resonates with the concept of ingroup bias that was discussed earlier in this chapter.

When considering the collaborative atmosphere and team-based dynamics in many modern workplaces, Strauss cautions that performance evaluations in this environment can be conducive to the rise of implicit biases. She notes, "the focus on teams creates more possibilities for implicit bias when teams play a role in the performance evaluations of women and minorities," notably when an individual's particular identity category is salient and distinctive in an otherwise relatively homogenous context (this is known as the "solo effect") (Strauss, 2013, p. 185).

Another factor that can influence performance is stereotype threat. This psychological phenomenon refers to a fear of being viewed through the lens of a negative stereotype, or the fear of inadvertently confirming an existing negative stereotype of a group with which one self-identifies (C. M. Steele & Aronson, 1995). Research indicates that these fears often manifest themselves in lower performance by the stereotyped group, even when the steoreotyped group and comparison (non-stereotyped) group have been statistically matched in ability level (C. M. Steele & Aronson, 1995). In short, anxiety at the prospect of reinforcing a negative stereotype can implicitly activate a "disruptive apprehension" that interferes with performance (Ferguson, 2003; C. M. Steele, 1997).

Research indicates that stereotype threat not only can exist in workplace settings, but it can also unconsciously affect our self-perceptions and workplace performance (Roberson, Deitch, Brief, & Block, 2003; H. Ross, 2008). Among the studies that delve into this area, Roberson and Kulik concluded that three conditions can exist in the workplace that make the activation of stereotype threat likely for negatively stereotyped groups: 1) the employee is invested in his/her work performance, that is, caring about his/her work and desiring to do well; 2) the work task is challenging and stereotype-relevant, and 3) the context/work setting seems to reinforce the stereotype (Roberson & Kulik, 2007). Also in the employment domain, Block and colleagues formulated a conceptual model to further understanding of the possible responses to stereotype threat in workplace settings, including fending off the stereotype, becoming discouraged by the stereotype, and becoming resilient to the stereotype (Block, Koch, Liberman, Merriweather, & Roberson, 2011). Each response category includes specific strategies an employee may adopt based on his/her response to the situation (Block, et al., 2011). In sum, the subtle activation of stereotypes can implicitly affect workplace performance.

ADDRESSING IMPLICIT BIAS IN THE WORKPLACE

Several strategies may be used to counter the effects of implicit biases in the employment process. While complete eradication may be impossible, the techniques discussed in this section offer some oft-suggested ideas for addressing implicit bias in this realm.

First and foremost, individuals, particularly those involved in the hiring process, need to be made aware of the existence of implicit bias and the specific implicit biases that they themselves hold (Bertrand, et al., 2005; Faragher, 2013; Kang & Banaji, 2006; Rudman, 2004a). It is important to make people aware of any discrepancies that may exist between their conscious ideals and non-conscious automatic biases they may hold (Dovidio, et al., 1997; Monteith, Voils, & Ashburn-Nardo, 2001). For many companies and organizations, this can take the form of staff trainings wherein participants are introduced to the concept of implicit bias and encouraged to consider the role it may play in various workplace inter-

actions (Faragher, 2013). This knowledge is often sustained through the repetition and reinforcement of the ideas presented at the trainings (Faragher, 2013).[3]

Looking at the interview process, many individuals suggest that the structure of the hiring and interview procedures is key to minimizing the extent to which implicit bias can infiltrate the process. For example, Segrest Purkiss and colleagues suggest additional training for interviewers, the use of a structured procedure for rating candidates, the presence of multiple interviewers, and videotaping the actual interview (Segrest Purkiss, et al., 2006). Others have endorsed structured interviews that limit the level of discretion available to the interviewers, thereby limiting the amount of bias (explicit or otherwise) that infiltrates the process (Babcock, 2006; Bertrand, et al., 2005; Huffcutt & Roth, 1998; Laskow, 2013).

Beattie cautions against asking for a "first impression," "preliminary thought," or a "gut response" in the selection interview stage, as these "gut feelings" are likely to be derived from biased implicit processes (Beattie, 2013, p. 254; Beattie, et al., 2013). Like Beattie, Richards-Yellen's advice for removing implicit bias when hiring includes a reminder to embrace a deliberative process that allows for time and reflection (Beattie, et al., 2013; Richards-Yellen, 2013). This admonition against making a quick decision echoes previous literature that declares that time limitations can be a condition in which implicit biases arise (Bertrand, et al., 2005).

Finally, Ross (2008) captures many of these ideas in his list of ten ways to combat hidden biases in the workplace. They are summarized as follows:

1.) The first step to mitigating unconscious bias in the workplace is to recognize our own biases.

2.) "Reframe the conversation to focus on fair treatment and respect, and away from discrimination and 'protected classes'" (p. 15). Examine every step of the employment process from screening resumes to termination for the presence of unconscious biases.

3.) Conduct anonymous employee surveys to uncover the presence of unconscious biases, recognizing that the nature of these biases may vary across divisions of a company.

4.) Conduct anonymous surveys with former employees to gather insights on any unconscious biases they may have experienced during their tenure. Assess their perceptions of the company now.

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3. One free training toolkit on unconscious bias in a workplace setting, "Five Points for Progress," is available online at http://raceforopportunitybitc.org.uk/tools-case-studies/toolkits/five-5-points-progress-toolkit-know-yourself-unconscious-bias-tool.

5.) Use the survey results from current and former employees to offer customized training to address unconscious bias by defining it, discussing its implications, and providing positive methods to address it.

6.) Implement an anonymous third-party complaint channel where employees may air unconscious bias concerns.

7.) Conduct a resume study in your own company or department to assess whether race and gender cues found on the resumes lead to unequal assessments of roughly equivalent resumes. (For a great example of this type of study, see Bertrand & Mullainathan, 2004.)

8.) Use a resume study (see above) "to reassign points based on earned accomplishments vs. accidents of birth—e.g., take points off for someone who had an unpaid internship, add points for someone who put him/herself through college" (p. 15).

9.) Encourage the distribution of stories and images that counter stereotypes, particularly positive images of persons of color, GLBT, and women. The use of counter-stereotypic exemplars and similar debiasing agents has been discussed fairly extensively in the literature as a means to combat implicit bias (see, e.g., Dasgupta & Asgari, 2004; Dasgupta & Greenwald, 2001; Kang & Banaji, 2006; Kang, et al., 2012; Lehrman, 2006; National Center for State Courts), though there is not complete consensus on its effectiveness (Joy-Gaba & Nosek, 2010; Schmidt & Nosek, 2010).

10.) "Identify, support and collaborate with effective programs that increase diversity in the pipeline" (p. 15).

Art of Hosting Meaningful Conversations Training – Implicit Bias

From July 29-31, 2013, a group of Ohio State faculty and staff participated in a training on the Art of Hosting Meaningful Conversations. The training introduced participants to a range of powerful methods for harnessing collective wisdom and engaging in meaningful conversations with an eye toward change. Structured as a three-day residential retreat, participants were empowered to host and design meaningful conversations within their own parts of the university community. In particular, the training emphasized meaningful conversations around implicit bias, reflecting on the questions participants had about implicit bias and the ways in which a fuller understanding of this phenomenon can help them in a workplace setting and beyond. This event was sponsored by The Women's Place.

CONCLUSION

In sum, "There is little doubt that unconscious discrimination plays a significant role in decisions about hiring, promoting, firing, and the other benefits and tribulations of the workplace" (M. Hart, 2005). In an essay that encourages sociologists to look beyond purposive actions by dominant group members as the key force behind workplace inequality, Reskin declares that "we cannot rid work organizations of discrimination until we recognize... that much employment discrimination originates in automatic cognitive processes" (Reskin, 2000, p. 321).

Although this Review focuses primarily on racial and ethnic biases, this chapter would be incomplete without recognizing the extensive literature that has documented the implicit gender biases that exist in the employment domain. From hiring to promotions (notably the "glass ceiling" effect), implicit biases against women have been repeatedly shown to hinder women's ability to enter into and advance in workforce (see, e.g., Goldin & Rouse, 2000; Levinson & Young, 2010b; Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012; Reskin, 2005; Rudman & Glick, 2001; Rudman & Kilianski, 2000; Strauss, 2013). Implicit biases against women in the workforce is also a very active topic of discussion outside of the academic realm both in the United States and abroad, with many Human Resource specialists, professional societies, and employers considering this phenomenon and its implications for women's careers (among many others, see, e.g., "Confronting Implicit Gender Bias in Neuroscience," 2013; Dooley, 2013; L. Jones, 2013; Ondraschek-Norris, 2013).

5

CHAPTER FIVE

Housing

"...WHATEVER THE UNDERLYING CAUSES OF IMPLICIT BIAS MAY PROVE TO BE, ITS EXISTENCE PROVIDES AN ADDITIONAL LAYER OF INSIGHT INTO WHY ***HOUSING INEQUALITY AND SEGREGATION PERSIST DESPITE THE DISMANTLING OF AN EXPRESS RACIAL ORDER IN AMERICAN PROPERTY LAW****."*

Professor Michelle Wilde Anderson & Dr. Victoria C. Plaut, 2012, p. 44

Generally speaking, housing and housing policy is a domain that has not been subjected to extensive scrutiny by implicit bias researchers, even though some scholars have asserted that implicit bias may infiltrate the housing rental market even more than the employment/hiring realm (see, e.g., Schwemm, 2007). Some studies have explored implicit bias in housing but not with the depth and intensity that has been devoted to other domains, such as health care and criminal justice. In spite of the relatively few studies making direct connections between housing and the operation of implicit bias, there is considerable evidence that suggests the influence of implicit bias in this sphere (see, generally, "Township of Mount Holly v. Mt. Holly Gardens," asserting that "underlying implicit biases play a large role in housing decision-making that perpetuates segregation," p. 7). Moreover, whether buying or renting, the process of acquiring housing is often extensive, with multiple stages and many actors involved. The complexity of this process creates an environment in which implicit biases may infiltrate numerous steps throughout these proceedings. This chapter reviews the existing research and seeks to encourage further scientific inquiries in this domain.

USING PAIRED TESTER / AUDIT STUDIES TO EXAMINE DISCRIMINATION

One popular technique for examining discrimination is the use of paired-testing studies, also known as audit studies. This research method places two testers—one White and one non-White—who are comparably matched on various characteristics (e.g., age, gender, etc.) into a particular social or economic setting (Bertrand & Mullainathan, 2004). The testers are carefully trained to present themselves as alike as possible, such as posing the same questions and asserting similar preferences during their interactions (M. A. Turner, et al., 2013). Given that the testers' self-presentation and interests are parallel, the underlying logic is that they should

receive the same treatment; therefore, systematic differences in treatment are seen as evidence of discrimination (M. A. Turner, et al., 2013). The goal of paired testing is to assess the level or frequency of differential treatment in a given context, such as seeking to secure housing (National Research Council, 2002).

Begun in the late 1970s, the U.S. Department of Housing and Urban Development (HUD) has done nationwide paired-testing studies approximately once a decade in an effort to measure the extent of discrimination in U.S. housing markets (M. A. Turner, et al., 2013). Following the first study in 1977, subsequent iterations occurred in 1989, 2000, and most recently in 2012. While the first study examined only the differential treatment experiences by Blacks as opposed to Whites (see Wienk, Reid, Simonson, & Eggers, 1979), more recent editions have expanded to include Hispanic and Asian renters and homebuyers (see, e.g., M. A. Turner, et al., 2013).

These HUD studies have documented the persistence of housing discrimination, and the latest edition is no exception. Released in June 2013, in this latest report HUD employed this matched tester research method more than 8,000 times in 28 metropolitan areas. The results were striking. As a mere taste of the many disparate findings, consider the following (all from M. A. Turner, et al., 2013):

■ Among those seeking to rent, Black, Hispanic, and Asian renters all were both told about and shown fewer housing units than equally qualified White renters. More specifically, compared to Whites, Blacks were told about 11.4% fewer units and shown 4.2% fewer units. Prospective Hispanic renters fared even more poorly compared to Whites, being told about 12.5% fewer units and shown 7.5% fewer units. Asians were told about nearly 10% fewer units than Whites (9.8%) and were shown 6.6% fewer units.

■ Among prospective homebuyers, Black and Asian homebuyers were both told about and shown fewer houses than equally qualified Whites. The gap between units discussed with prospective Black and Asian homebuyers compared to Whites were 17% fewer units for Blacks and 15.5% for Asians. The number of units Blacks and Asians were able to see indicate even larger disparities compared to Whites. Blacks were shown 17.7% fewer units and Asians were shown 18.8% fewer units.

■ The differences in treatment that Hispanic homebuyers experienced were not statistically significant from what the White testers experienced.

Moreover, the extent of the discrimination uncovered by HUD is even more alarming in light of the report's acknowledgment that "the results reported here probably understate the total level of discrimination that occurs in the marketplace" (M. A. Turner, et al., 2013, p. 3). Indeed, while these matched tester studies are insightful, advocates and researchers have noted the imperfections and methodological shortcomings of these audits, often concluding that discrimination

may in fact be worse than the matched tester data findings indicate (see, e.g., Freiberg, 2013; Heckman, 1998).

Reflecting on how the 2013 compares to previous iterations of these HUD studies, lead researcher Margery Austin Turner contemplated on the implications of these results. With a nod to the more subtle, implicit nature of prejudice in modern society, she wrote, "Although the most blatant forms of housing discrimination (refusing to meet with a minority homeseeker or provide information about any available units) have declined since HUD's first national paired-testing study in 1977, the forms that persist (providing information about fewer units) raise the costs of housing search for minorities and restrict their housing options" (M. Turner, 2013).

Others have furthered the connection between implicit biases and the outcomes of these housing audit studies. Using these paired-testing studies as an example to illustrate their point, Bertrand et al. indicated that "we find it reasonable to hypothesize that several… documented forms of differential treatment may, in part, reflect such implicit associations" (Bertrand, et al., 2005, p. 95). In addition, in a discussion regarding the role of implicit associations, Quillian affirmed that implicit prejudice is likely to undergird the discrimination documented by housing audit studies (Quillian, 2008).

HOME VALUATIONS AND PRICE DIFFERENTIALS

Given that numerous variables are involved in the pricing of a home when it is placed on the market (e.g., location, condition, recent comparable sales, etc.) and the multiple actors involved in housing transactions (e.g., buyers, sellers, realtors, mortgage brokers, home inspectors, etc.), attempting to understand the ways in which implicit racial bias may infiltrate this lengthy process is no small task. Research suggests that implicit bias plays a role in "explaining the connection between property values and racial stereotyping of space" ("Township of Mount Holly v. Mt. Holly Gardens," p. 17).

For example, a 2012 working paper by Bayer et al. examined over two million repeat-sales housing transactions in four metropolitan areas over two decades to understand the extent of racial price differentials and the possibility of race prejudice being an explanatory factor for these differentials. In terms of price differentials, the researchers revealed that Black and Hispanic buyers pay an average 2% premium for comparable housing compared to White buyers; this percentage is statistically significant (Bayer, Casey, Ferreira, & McMillan, 2013). Moreover, when controlling for buyer attributes such as income, wealth, and credit access, average premiums paid by Black and Hispanic homebuyers increase to nearly 3% (Bayer, et al., 2013). In terms of the explanation for these robust premiums, Bayer et al. did not find any evidence of explicit racial bias on the part of sellers. While not directly addressing the possibility of implicit bias, they do leave the door open for its consideration when they write, "The lack of same-race preference on

the part of sellers, however, makes it less clear whether such differentials actually represent the consequences of discriminatory behavior or are an artifact of some other process related to home-buying" (Bayer, et al., 2013, p. 16). Moreover, in a nod to audit studies, they note that they "cannot rule out that animosity or prejudice may lead to the exclusion of minority buyers from purchasing certain properties in the first place" (Bayer, et al., 2013, p. 18). Further research is needed to explore the exact role that implicit bias may play in these price differentials.

Findings from other studies suggest that Whites use race (often implicitly) as a proxy for neighborhood characteristics such as housing values and property upkeep. One study considered the extent of this association and asserted that race "has a stranglehold on how people think about and perceive neighborhoods—even neighborhoods that, on the face of it, are identical" (Krysan, Farley, & Couper, 2008, p. 20). Findings indicated that Whites' evaluations of neighborhoods were significantly associated with residents' races, revealing that Whites assumed that the housing stock in neighborhoods with Black residents was less likely to appreciate in value (Krysan, et al., 2008). The researchers noted that the biases Whites hold against neighborhoods with Black residents may stem, at least in part, from unconscious biases.

ASSISTANCE FROM REAL ESTATE PROFESSIONALS

Implicit racial biases may also act as a subtle influence on rental and real estate agents. Some studies suggest discriminatory behavior by these agents, such as providing less information about available units or relevant financial incentives to minority customers (see, e.g., Choi, Ondrich, & Yinger, 2005; Yinger, 1998). For example, among the considerations in a 2005 study that used data from the national 1989 and 2000 HUD housing discrimination audit studies was the assistance (or lack thereof) provided by real estate agents to individuals seeking housing. Specific financial assistance measures examined included "whether the agent explicitly offered to help a tester with obtaining a mortgage, whether the agent provided a list of recommended lenders, and whether the agent discussed the down payment necessary to purchase the advertised or similarly priced units" (S. L. Ross & Turner, 2005, p. 163). Among the results, Hispanics experienced relatively comparable treatment while searching for owner-occupied housing; however, their real estate agents provided less assistance with respect to obtaining a mortgage (S. L. Ross & Turner, 2005). The implications of this lack of guidance "may limit the choices and options available to minorities, especially first-time homebuyers" (S. L. Ross & Turner, 2005, p. 177).

RACE AND PERCEPTIONS OF NEIGHBORHOOD CRIME

Considering implicit bias with respect to space and place expands our focus from not merely individual actors, but also to the "socially shared meanings that develop from and reinforce group relations," according to Anderson and Plaut (Anderson & Plaut, 2012, p. 32). Research has established the association

between certain racial groups and neighborhood conditions, such as perceptions of crime. When it comes to property-related decision making, pervasive implicit biases can further the perception that predominantly Black neighborhoods suffer from crime (Anderson & Plaut, 2012). Compellingly, this implicit association can exist even despite evidence to the contrary. For example, a 2001 study considered the relationship between neighborhood racial composition and residents' perceptions of their neighborhood's level of crime. Using data from the late 1990s in Chicago, Baltimore, and Seattle, the researchers found a positive association between the percentage of young Black men in a neighborhood and perceived crime, even when controlling for a variety of neighborhood characteristics (Quillian & Pager, 2001). More specifically, the standardized effect of the percentage of young Black men was found to be one of the best predictors of neighborhood crime severity (Quillian & Pager, 2001). Having noted the "distorted perceptions in which the association of Blackness and criminality is systematically overrated," Quillian and Pager suggested that a powerful mental association exists between race and crime, so much so that these perceptions overwhelm any actual associations that exist (p. 722).

Moreover, research by B. Keith Payne further underscores the implicit association between crime and race. His 2001 study found that study participants who were primed with Black faces were able to more quickly identify guns (as opposed to hand tools) than when they were primed with White faces (Payne, 2001). Moreover, participants also misidentified tools as guns more often when exposed to a Black face prime (Payne, 2001). Given that crime levels are often considerations of individuals when assessing housing possibilities in prospective neighborhoods, the implicit association that exists between Blackness and crime can skew perceptions of neighborhoods with Black residents, regardless of actual crime levels (Anderson & Plaut, 2012).

RACE AND PERCEPTIONS NEIGHBORHOOD DISORDER

Implicit biases can also be manifested in race-based perceptions of neighborhood disorder. Like the perceptions of crime discussed in the previous section, social science research suggests that the racial composition of a neighborhood affects perceptions of the level of disorder present in the neighborhood, often regardless of the actual signs of disorder (Anderson & Plaut, 2012; Sampson & Raudenbush, 2004). Several studies address this topic.

Work by Sampson and Raudenbush investigated perceptions of disorder, specifically considering how the neighborhood context (e.g., racial, ethnic, socioeconomic structure) affects perceptions of disorder beyond objective, systematic assessments thereof. Considering the role of implicit bias, they argue that the association between the racial composition of a neighborhood and perceptions of disorder should be independent of the observer's own racial/ethnic characteristics (Sampson & Raudenbush, 2004). Indeed, in their multifaceted study that spanned approximately 500 block groups in Chicago, the researchers found that

"Blacks are no less likely than Whites to be influenced by racial composition in predicting disorder" (Sampson & Raudenbush, 2004, p. 336). Models indicated that the social and ethnic composition of neighborhoods held a positive and highly significant association with perceived disorder (Sampson & Raudenbush, 2004). In short, minority presence in neighborhoods affected perceptions of disorder for both Blacks and Whites beyond the presence of actual, systematically observed disorder.

More recently, a 2013 article by Wickes et al. provides further support for Sampson and Raudenbush (2004). Wickes and colleagues focused on whether residents' observations of the minority composition of a given area distorts their perceptions of disorder. Reflecting on previous research by Chiricos and colleagues that the *perception* of minorities rather than their actual *presence* matters when perceiving neighborhoods (Chiricos, McEntire, & Gertz, 2001), Wickes et al. sought to explicate the connection between "seeing" minorities and perceiving disorder. Researchers used a survey of nearly 10,000 residents within nearly 300 neighborhoods in two Australian cities to pursue this inquiry. Wickes and colleagues found that when residents overestimated the presence of minorities in their neighborhood, they also perceived greater disorder, and this relationship remained significant even after controlling for an extensive number of individual and community characteristics (Wickes, Hipp, Zahnow, & Mazerolle, 2013). Thus, due to implicit biases, "how residents 'see' others in their neighborhood has significant implications for perceptions of neighborhood problems" (Wickes, et al., 2013, p. 547).

In sum, implicit biases may "reinforce disadvantage and disinvestment in neighborhoods such that racial, ethnic, and class composition of an area become aligned with particular 'kinds' of places, inhabited by certain 'types' of people" (Wickes, et al., 2013, p. 523). Sampson and Raudenbush make the implicit bias and disorder connection more forcefully, asserting that "implicit bias in perceptions of disorder may be one of the underappreciated causes of continued racial segregation" (Sampson & Raudenbush, 2004, p. 337).

NEIGHBORHOOD DEMOGRAPHICS AND INTERACTIONS

Residential racial/ethnic segregation in the United States is an extensive and well-documented phenomenon (see, e.g., Frey & Myers, 2005; Glaeser & Vigdor, 2001; Iceland, Weinberg, & Steinmetz, 2002). However, in contrast to the segregated neighborhood demographic trends we observe, some sources indicate that housing segregation is not necessarily a byproduct of residents' explicit desires. For example, a 2012 ERASE Racism report examined the housing and neighborhood preferences of African Americans on Long Island. In contrast to the common (mis)perception that Blacks desire to live in communities that are largely Black, the vast majority of respondents asserted that given the option, they would choose to live in a racially mixed neighborhood (Erase Racism, 2012). Only 1% of respondents preferred an all-Black neighborhood. Moreover, nearly 70%

of individuals surveyed favored a racially mixed neighborhood that was evenly divided between Black and White residents.

While many factors contribute to the segregated housing patterns we observe, one of the outcomes of living in largely homogenous areas is that many people lack intergroup exposure. This dearth of exposure to and personal engagement with members of other racial groups can perpetuate implicit biases. Notably, the scholarly literature suggests that diverse spaces that allow for intergroup contact can have a debiasing effect on individuals (Pettigrew, 1997; Pettigrew & Tropp, 2006; Telzer, et al., 2013). Diverse neighborhoods may provide an environment for prolonged interpersonal contact, and research indicates that "being embedded in naturally existing local environments that facilitate positive contact with members of stereotyped groups create and reinforce positive implicit associations, thereby counteracting implicit bias" (Dasgupta, 2013, p. 247; see also Dasgupta & Rivera, 2008). Research by Telzer and colleagues qualifies this claim slightly, noting that while neighborhood diversity may contribute to interracial contact, perhaps more important for children is having cross-race friends and classmates, as a school context provides for extensive hours of intergroup peer interactions (Telzer, et al., 2013).

A CALL FOR FURTHER RESEARCH

In short, while implicit bias research in the housing realm is not particularly robust, existing scholarly evidence suggests that these unconscious biases influence a range of real estate interactions and transactions. "Even when housing providers and lending institutions are not consciously making biased decisions, their actions and behavior are often primed by stereotypes and subconscious or unconscious perceptions of minority homeseekers throughout the housing process" ("Township of Mount Holly v. Mt. Holly Gardens," p. 21). Given the complex dynamics surrounding the various actors engaged in any housing transaction, additional research is needed to further examine and explain the multitude of ways in which implicit racial biases operates in this domain.

CONCLUSION

As this edition of the *State of the Science: Implicit Bias Review* shows, the science and literature related to implicit bias is currently moving forward with tremendous momentum. Beyond scholarly publications, this momentum has been augmented and complemented by an increase in public discourse related to implicit biases and their real-world effects.

WITH ALL OF THE ENERGY devoted to furthering this realm of scientific inquiry, one of the questions that naturally follows is—what's next for the field of implicit bias? While it would be inappropriate to introduce speculation into an evidence-driven document such as this, some scholars have raised questions in their publications that constitute at least reasons for reflection, if not calls for further inquiry. Several research efforts led by Irene V. Blair ponder these topics in the health/health care domain. Consider these examples:

- In light of their finding that implicit bias levels for primary care providers and community members were generally the same, Blair and colleagues noted that the implicit biases they observed did not seem to be a problem specific to health care professionals but rather indicative of larger societal issues. The question that emerged, then, was, "Is it enough for patients that no more bias is likely to appear within the health care setting than outside, or are health care providers held to a higher standard?"(Blair, Havranek, et al., 2013, p. 95) Parallel inquiries could surely be launched with respect to police officers, judges, teachers, and other key individuals whose roles position them (and their respective implicit biases) to have a tremendous impact on the lives of others.

- While uncommon, some individuals do show no implicit biases on specific measures (i.e., they display no implicit preference toward one group over another). One health care study by Blair and colleagues found that of the primary care pro-

viders in their sample, approximately 18% held no bias toward Latinos and 28% were unbiased with respect to African Americans (Blair, Havranek, et al., 2013). The researchers suggest that findings such as this provide an opportunity for a unique line of inquiry. Rather than focusing on biased individuals, perhaps there is merit in concentrating research efforts on understanding the *un*biased providers, such as considering what approach or other factors allow these individuals to be both implicitly and explicitly egalitarian. Moreover, is there something about the approach of these unbiased primary care providers that can be taught to others?

■ In a 2011 article, researchers articulated a "roadmap" for future implicit bias research in the health care field (Blair, Steiner, & Havranek, 2011). The authors raise several fascinating inquiries related to three overarching research goals they identify.

Under the first goal of determining "the degree of implicit bias with regard to the full range of social groups for which disparities exist," Blair and colleagues encourage consideration of the intersection of overlapping group biases given that all individuals are simultaneously members of multiple social groups (e.g., gender group, age group, racial/ethnic group, etc.) (Blair, et al., 2011, p. 74). They also ponder the extent to which implicit bias exists among a range of health care professionals (i.e., not just primary care providers), particularly in an era of multidisciplinary health care teams. They also encourage further research regarding not only the health care providers' implicit biases, but also the implicit biases the patients possess, and how the combination of these implicit biases from both parties may affect communication and treatment.

For the second goal of learning more about how implicit biases relate to clinical care and outcomes, Blair et al. suggest both clinical and laboratory studies so that researchers can "determine whether differences in the levels of disparity found from one clinician to another co-vary with differences in levels of the clinicians' bias" (Blair, et al., 2011, p. 75).

The final goal Blair and colleagues expressed focuses on adapting and testing interventions. Noting that interventions should focus on several levels, "such interventions could attempt to reduce implicit bias directly, could bolster patients' defenses against bias, or could alter care delivery systems to mitigate the effects of bias" (Blair, et al., 2011, p. 75).

These examples of future research directions from the health/health care field provide a mere glimpse into the exciting body of ongoing research efforts that should emerge in forthcoming publication cycles and will be documented by upcoming editions of the *State of the Science: Implicit Bias Review*.

"Our minds automatically justify our decisions, blinding us to the true source, or beliefs, behind our decisions. Ultimately, we believe our decisions are consistent with our conscious beliefs, when in fact, our unconscious is running the show."

Howard Ross, 2008, p. 11

HELPFUL MATERIALS

This Review closes with appendices of materials that may prove useful for individuals interested in educating others regarding implicit racial biases. Appendix A contains a fictitious conversation with someone who is skeptical of the concept of implicit bias that models a way of sharing relevant information in a straightforward and less academic manner. Appendix B is a quick fact sheet on implicit bias and its effects.

To download the 2013 review and view the full archive of Kirwan Institute's work on implicit bias, visit **kirwaninstitute.osu.edu/implicit-bias-review**.

Appendix

A Conversation with an Implicit Bias Skeptic

While conversations about implicit bias are flourishing in some arenas such as the social justice field, the reality is that many people remain unfamiliar with the concept and its dynamics. This section provides a model to help guide conversations with those who have not yet been informed about this phenomenon. The tone used here mirrors that of a normal conversation in an effort to illustrate how this academic and scientific concept can be made accessible to a broader audience. Since these conversations often originate in the context of doubt or confusion from one party, the dialogue is structured to be intentionally persuasive in an effort to help counter and rebut skeptics.

I'm sorry, but I'm not familiar with that term you just mentioned—implicit bias. What are you talking about?
Oh, implicit bias? It's a fascinating concept! Implicit biases are attitudes or stereotypes that we carry around with us unconsciously. These mental associations influence our perceptions, actions, and decisions, yet because implicit biases are unconscious and involuntarily activated, we are not even aware that they exist.

So you're saying that all of this occurs in my head without my knowledge? I'm a pretty self-aware person. I even meditate and engage in reflection exercises regularly. I seriously doubt there is much going on in my mind that I do not already know.
Research indicates that even the most self-aware people only have insights into a mere fraction of their brains because so much of our cognition is unconscious. Some studies suggest that the brain is capable of processing approximately 11 million bits of information every second, but our conscious mind can handle only 40–50 of those bits. Other research estimates that our conscious mind may only be capable of handling a mere 16 bits each second. That leaves the bulk of the mental processing to the unconscious.

You may be familiar with the iceberg analogy used often in psychology when discussing Freud. The visible part of the iceberg that exists above the surface of the water is a meager fraction of the structure's overall size when you account for the bulk of it that is located underwater. In this analogy, the conscious mind is represented by the part of the iceberg that exists above the surface of the water, while the unconscious mind corresponds to the much larger portion of the iceberg. This analogy applies to conscious/unconscious processing. In fact, given that we consciously process such a tiny portion of our mental processes, it could almost be said that relative to the iceberg as a whole, we only are consciously aware of a portion of our cognition equivalent to a snowball on the top of the iceberg!

Where do these biases you're talking about come from?
Everyone has implicit biases. The implicit associations we harbor in our subconscious cause us to have feelings and attitudes about other people based on characteristics such as race, ethnicity, age, and appearance. Research suggests that these associations begin to develop very early in life as we're exposed to both direct and indirect messages. Some studies have documented

implicit biases in children as young as six years old. Beyond early life experiences, the media and news programming are often regarded as influencing individuals' implicit biases. Keep in mind, though that not all of the messages we're talking about are blatant; many are quite subtle.

Wait a minute, everyone is biased? Oh no, that can't be right. After all, I know [redacted] not biased. I have friends of all races and live in a very diverse community. I treat everyone equally.
Well, the reality is that everyone is susceptible to implicit biases. It's important to keep in mind that there are lots of different types of implicit bias. It is possible that while you may not have a bias with respect to certain attributes, such as perhaps gender, you may hold biases related to age, race, or other characteristics. No one is completely free of implicit biases. Even the most egalitarian people, such as judges who devote their professional careers to fairness, possess these biases.

But, come on now. It's completely obvious that biases and discrimination are considered unacceptable in modern society.
True, we have come a long way with respect to explicit bias, discrimination, and prejudice in our society. However, the reality remains that even though overt, explicit biases are less common, implicit biases remain incredibly pervasive.

You have to realize that the implicit biases we've been discussing are different from explicit biases. The main difference is that explicit biases are the ones that are consciously acknowledged, while implicit biases are those that we hold without introspective awareness of their existence. While these two concepts are related, they are very distinct.

What's really fascinating—and may be helpful for you as you consider these ideas—is that our implicit associations do not necessarily align with our explicitly-held beliefs. For example, consider the stereotype that males are better at math than females. As a woman, I may consciously disagree with this stereotype; however, implicitly—in my unconscious—it's perfectly possible that I may actually implicitly associate mathematic superiority with men rather than women. This goes to show that you can actually hold biases against your own ingroup; in this case my bias would be against my ingroup of females. I may have internalized that implicit association, even though consciously I would strongly disagree with the notion that women are inferior to men with respect to mathematic abilities in any way.

I don't know. It still all sounds like a bunch of psychological hokum to me. If I believe what you're telling me about how even I'm unaware of associations I'm carrying around in my own head, how is anyone else able to prove they exist?
Psychologists have been working on instruments to assess implicit associations for many years. One of the most popular and sophisticated techniques that has emerged for assessing implicit biases is the Implicit Association Test, often called the IAT. This computerized test measures the relative strength of associations between pairs of concepts. The IAT is designed as a sorting task in which individuals are asked to sort images or words that appear on a computer screen into one of two categories. The basic premise is that when two concepts are highly correlated, people are able to pair those concepts more quickly than two concepts that are not well associated.

So, for example, if I told you that every time the IAT prompted you with the word 'thunder' you should place it in the same category as 'lightning,' you probably wouldn't have any problems with that task. It would come easily to you because, like most people, you associate lightning and thunder together without having to even think about it. But what if I then switched the categories and told you that every time you saw 'lightning,' you needed to place it in the same category as 'milk.' This would likely be much more difficult to do. It would probably take you longer, and you'd almost certainly make more mistakes because lightning and milk are not concepts that you typically associate easily. The IAT measures the time differentials between how long it takes participants to pair concepts in different ways. The test's categorizing tasks are completed quite quickly, and without having time to consciously think about the pairings, the test therefore is measuring the unconscious associations people hold.

This example was pretty rudimentary, but the real IAT has much more insightful tests. One popular one assess how long it takes participants to categorize Black and White faces respectively with "good words" (e.g., happiness, joy, etc.) versus "bad words" (e.g., terrible, angry, etc.). The racial group that individuals most quickly associate with the positive terms reflects a positive implicit bias towards that group. Extensive research has uncovered an implicit pro-White/anti-Black bias in most Americans.

I'm still not entirely sure why exactly I should care about implicit bias, especially if they're just hidden away in the depths of our brains anyways. Does this mean anything for people's everyday lives in the real world?
Of course! There are so many real world effects of implicit biases across a range of domains—employment, criminal justice, health care, etc. Hundreds of scientific studies have been done to explore this phenomenon, and many of the findings are very compelling. Consider these examples:

In a video game that simulates what police officers experience, research subjects were instructed to "shoot" when an armed individual appeared on the screen and refrain from doing so when the target was instead holding an innocuous object such as a camera or wallet. Time constraints were built into the study so that participants were forced to make nearly instantaneous decisions, much like police officers often must do in real life. Findings indicated that participants tended to "shoot" armed targets more quickly when they were African American as opposed to White, and when participants refrained from "shooting" an armed target, these characters in the simulation tended to be White rather than African American. Research such as this highlights how implicit racial biases can influence decisions that have life or death consequences.

Or, consider the health care field. A 2012 study used identical case vignettes to examine how pediatricians' implicit racial attitudes affect treatment recommendations for four common conditions that affect kids. Results indicated that as pediatricians' pro-White implicit biases increased, they were more likely to prescribe painkillers for vignette subjects who were White as opposed to Black patients. This is just one example of how understanding implicit racial biases may help explain differential health care treatment, even for youth.

Because these biases are activated on an unconscious level, it's not a matter of individuals knowingly acting in discriminatory ways. Implicit bias research tells us that you don't have to have negative intent in order to have discriminatory outcomes. That's a pretty huge statement, if you think about it.

I have to admit, this is all kind of fascinating. How can I learn more?
I would encourage you to go online and take the IAT. You'll find it at http://implicit.harvard.edu. There are so many different versions available, including ones that address race, age, sexuality, religion, skin tone, and a couple related to gender, among others. The tests are very straightforward, do not take very long to finish, and are incredibly insightful.

Thanks for the info! I'll look into this further.

Quick Facts Sheet

This brief fact sheet is designed as a quick introduction to implicit racial bias. It selectively highlights several key ideas of how implicit bias operates and its effects.

■ Implicit bias refers to the attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner.

■ Implicit biases are activated involuntarily, unconsciously, and without one's awareness or intentional control (see, e.g., Greenwald & Krieger, 2006; Kang, et al., 2012; Nier, 2005; Rudman, 2004a).

■ Our unconscious minds handle a tremendous amount of our cognition, even though we are completely unaware of it (Mlodinow, 2012). Some data indicates that the brain can process roughly 11 million bits of information every second. The conscious mind handles no more than 40–50 of these information bits, with one estimate as low as a mere 16 bits (Kozak; Lewis, 2011; H. Ross, 2008).

■ Implicit biases are robust and pervasive (Greenwald, et al., 1998; Kang & Lane, 2010; Nosek, Smyth, et al., 2007). Everyone is susceptible to them, even people who believe themselves to be impartial or objective, such as judges. Implicit biases have even been documented in children (Baron & Banaji, 2006; Newheiser & Olson, 2012; Rutland, et al., 2005).

■ Implicit biases and explicit biases are related yet distinct concepts; they are not mutually exclusive and may even reinforce each other (Kang, 2009; Kang, et al., 2012; Wilson, et al., 2000).

■ Because implicit associations arise outside of conscious awareness, these associations do not necessarily align with individuals' openly-held beliefs or even reflect stances one would explicitly endorse (Graham & Lowery, 2004; Nosek, et al., 2002; Reskin, 2005).

■ A 2012 study showed that as pediatricians' pro-White implicit biases increased, they were more likely to prescribe painkillers for vignette patients who were White as opposed to Black. This is just one example of how understanding implicit racial biases may help explain differential health care treatment, even for youth (Sabin & Greenwald, 2012).

■ Most Americans, regardless of race, display a pro-White/anti-Black bias on the Implicit Association Test (Dovidio, et al., 2002; Greenwald, et al., 1998; Greenwald, et al., 2009; McConnell & Liebold, 2001; Nosek, et al., 2002).

■ In the hiring process and other decision-making occasions, allowing adequate time to make decisions is vital. Research has demonstrated that time pressures create an environment in which unconscious biases can flourish (Bertrand, et al., 2005).

■ Once an implicit association is activated, it is difficult to inhibit (Dasgupta, 2013). Despite what may feel like a natural inclination, attempts to debias by repressing biased thoughts are ineffective. Due to rebound effects, suppressing these automatic associations does not reduce them and may actually amplify them by making them hyper-accessible (Galinsky & Moskowitz, 2000, 2007; Macrae, et al., 1994). A great way to debias is to openly acknowledge biases and then directly challenge or refute them.

■ Our implicit biases are not permanent; they are malleable and can be changed by devoting intention, attention, and time to developing new associations (Blair, 2002; Dasgupta, 2013; Devine, 1989).

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