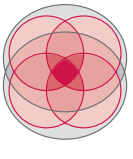
# IMPLICIT BIAS



KIRWAN INSTITUTE
for the Study of Race and Ethnicity

STATE OF THE SCIENCE: **IMPLICIT BIAS REVIEW 2015**

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.

# *STATE OF THE SCIENCE: IMPLICIT BIAS REVIEW 2015*

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**With funding from the W. K. Kellogg Foundation**

# *DEAR READER,*

The Kirwan Institute began publishing its annual ***State of the Science: Implicit Bias Review*** in early 2013. We are very excited to release this third issue as a part of our continued commitment to help deepen public awareness of brain science work underway at universities and colleges across the country about hidden biases that can shape our judgments and decision-making without our conscious awareness.

**"implicit biases are widespread and operate largely beneath the radar of human consciousness"**

The implications of this body of scientific study—both decades old and newly emerging—are enormous. Contrary to the common belief that the nation's progress with gender and racial equity has largely confined biases today to a small group of aberrational actors, researchers have shown that implicit biases are widespread and operate largely beneath the radar of human consciousness.

Awareness of this body of research is the first important step to combatting the unwanted effects of such biases and aligning our judgments, decisions, and other behaviors with our values. To be the egalitarians that we desire to be, it is essential that we learn from brain science how the human mind actually works.

The overwhelmingly positive response to the Kirwan Institute's *State of the Science Implicit Bias Review* has been gratifying. We thus take great pleasure in continuing to serve as a bridge between researchers and the field, in an effort to help create the fair and equitable communities our nation deserves.

Please let us hear from you,

Sharon L. Davies, Executive Director

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## Real World Implications:

Throughout this edition of the *State of the Science* are short vignettes about fictional characters. Generally written in a matched comparison structure, these brief stories shed light on how implicit racial bias can influence outcomes in real-life situations.

# 01 INTRODUCTION

> *"If you asked me to name the greatest discoveries of the past 50 years, alongside things like the internet and the Higgs particle, I would include the discovery of unconscious biases and the extent to which stereotypes about gender, race, sexual orientation, socioeconomic status, and age deprive people of equal opportunity in the workplace and equal justice in society."*

Dr. Nancy Hopkins, from Boston University's 141st Commencement Baccalaureate Address, "Invisible Barriers and Social Change," on May 18, 2014

2014 MARKED ANOTHER MONUMENTAL YEAR OF DEVELOPMENT AND advancement in the study of implicit social cognition. In addition to the substantial growth of scholarly publications, implicit bias discourse in the public domain flourished. While in several situations this public acknowledgement and awareness of implicit bias emerged as a result of tragic incidents (see discussion in the next chapter), other moments were more positive in nature.

For example, at an August symposium in Santa Fe, New Mexico, U.S. Supreme Court Justice Ruth Bader Ginsburg asserted that implicit bias is an aspect of the discrimination many women face. Recognizing that the discrimination women face is more subtle now than the overt discrimination of the past, Ginsburg declared that "Rooting out unconscious bias is much harder" (Haywood, 2014). Relatedly, in July, all seven Iowa Supreme Court justices recognized the impact of implicit bias in the employment realm (Foley, 2014a); this acknowledgement was a first for the state's highest court (Foley, 2014b).

On a celebratory note, Stanford scholar Dr. Jennifer Eberhardt was named a 2014 fellow of the John D. and Catherine T. MacArthur Foundation. Often referred to as the MacArthur "Genius" grant, this award recognizes and supports Dr. Eber-

hardt's contributions to implicit bias scholarship through her focus on visual attention, race, and perceptions of criminality (Parker, 2014). (For examples of Dr. Eberhardt's work, see Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006; Eberhardt, Goff, Purdie, & Davies, 2004.)

Early summer found implicit bias in the headlines for a more unusual reason; several news outlets highlighted research that considered how implicit sexism related to whether hurricanes have male or female names may affect responses to and ultimately deaths resulting from these dangerous storms (Gertz, 2014; Jung, Shavitt, Viswanathan, & Hilbe, 2014; Yong, 2014).

Mirroring the growing attention elsewhere, the topic of implicit bias continued to be addressed in numerous conferences throughout the country. Given its vast reach, the American Bar Associations' (ABA) efforts are particularly notable. The April 2014 ABA Young Lawyers Division spring conference included a CLE Program titled, "Practicing Law While Breaking the Confines of Implicit Bias In and Outside the Courtroom" (American Bar Association, 2014b). Similarly, in August, the ABA Judicial Division Annual Meeting in Boston featured a panel on unconscious bias and the law that looked at how implicit bias can affect defendants, police officers, prosecutors, defense attorneys, and judges (American Bar Association, 2014a). Finally, in a nod to the ABA's continued emphasis on implicit bias, in an August speech, President-Elect Paulette Brown emphasized the role of the ABA in fighting implicit bias, declaring, "Our goals and motto require us to do something" (Carter, 2014).

**Given the increased awareness of implicit bias ... it is perhaps unsurprising that many individuals, organizations, companies, and entities have begun to seek formal education and/or trainings on this topic**

Given the increased awareness of implicit bias across a range of sectors, it is perhaps unsurprising that many individuals, organizations, companies, and entities have begun to seek formal education and/or trainings on this topic. On the employment front, a January 2014 *Wall Street Journal* article cited Margaret Regan, President and CEO of The FutureWork Institute, declaring the current and predicted future growth of this training field. Reflecting on Regan's predictions, the article asserted that "As many as 20% of large U.S. employers with diversity programs now provide unconscious-bias training, up from 2% five years ago, and that figure could hit 50% in five years" (Lublin, 2014). Contributing to this momentous growth is the leadership of some major companies. Several of these large-scale training efforts by well-known companies garnered widespread media attention. For example, Google made headlines in late September when they shared information about their efforts to address unconscious bias through their training workshop, "Un-

1. Google's Unconscious Bias @ Work training video is publicly available here: https://www.gv.com/lib/unconscious-bias-at-work

conscious Bias @Work" (Buckley, 2014; Manjoo, 2014; Reader, 2014). In addition to the more than 26,000 Google employees that this wide-reaching initiative has reached, Google also made a video[1] of the full workshop publicly available on its Google Ventures page (Bock, 2014; Williams, 2014). Other notable entities that received publicity for implementing implicit bias trainings included the BBC, Microsoft, and the U.S. Marine Corps, among others (Seck, 2014; Singh, 2014; Wilhelm, 2014).

**ABOUT THIS REVIEW**

This *State of the Science: Implicit Bias Review* represents the third edition of this publication. Released on an annual basis near the beginning of each year, the *State of the Science* tracks the growing field of implicit bias with a focus on the latest research released during the previous calendar year. In addition to tracking trends in the public domain and scholarly realm, this publication provides a detailed discussion of new 2014 literature in the realms of criminal justice, health and health care, employment, education, and housing, as well as the latest ideas for debiasing. For those who are not already familiar with the concept of implicit bias or would appreciate a refresher, a detailed primer is located in **APPENDIX A**.

While the *State of the Science* aims to capture the tremendous range of growing literature, a few limitations to the scope should be noted. First, while many personal characteristics (age, gender, etc.) can activate implicit biases, this publication focuses largely on implicit racial and ethnic bias. Second, while seeking to be as comprehensive as possible, this document should not be regarded as exhaustive due to the continually expanding body of literature. In addition, generally speaking, we have chosen to exclude Honors Theses, Masters Theses, Independent Studies, and Dissertations. While these projects certainly represent important contributions to the field, we have chosen to highlight articles, books, and reports that emerge from more formal publication channels.[2]

Finally, for the sake of consistency, this document generally favors the term "implicit bias" over "unconscious bias," though the two are often used interchangeably throughout the literature. ■

2. Also informing this decision is the expectation that some of these nascent academic projects will ultimately be published in journals or similar venues and therefore included in upcoming editions of the *State of the Science*.

# MYTHBUSTERS

## IMPLICIT BIAS EDITION

CLEARING UP THE CONFUSION SURROUNDING IMPLICIT BIAS

## What is Implicit Bias?

**MYTH: Implicit bias is nothing more than beliefs people choose not to tell others. They know how they feel; they just know they cannot or should not say those beliefs aloud, so they hide them.**

BUSTED

Implicit bias differs from suppressed thoughts that individuals may conceal for social desirability purposes. **Implicit biases are activated involuntarily and beyond our awareness or intentional control**. Implicit bias is concerned with unconscious cognition that influences understanding, actions, and decisions, whereas individuals who may choose not to share their beliefs due to social desirability inclinations are consciously making this determination.

**MYTH: Implicit bias is nothing more than stereotyping.**

BUSTED

Implicit biases and stereotyping are closely related concepts that can be easily confused. Both implicit biases and stereotypes are types of associations that can be positive and negative. While it is true that implicit associations may form as a result of exposure to persistent stereotypes, **implicit bias goes beyond stereotyping to include favorable or unfavorable evaluations toward groups of people**. Additionally, implicit biases are activated involuntarily, whereas stereotyping may be a deliberate process of which you are consciously aware.

**MYTH: Having implicit biases makes me a bad person.**

BUSTED

Bias is a natural phenomenon in that our brains are constantly forming automatic associations as a way to better and more efficiently understand the world around us. **No one is a "bad" person for harboring implicit biases; these are normal human processes that occur on an unconscious level**. Some implicit biases are even positive in nature. In terms of the existence of unwanted, negative implicit biases, fortunately our brains are malleable, thus giving us the capacity to mitigate their effect though research-based debiasing strategies.

## How Does It Operate?

**MYTH: I am not biased; I have diverse friends and I believe in equal treatment.**

**Actually, we all have implicit biases**. Research shows that all individuals are susceptible to harnessing implicit associations about others based on characteristics like race, skin tone, income, sex, and even attributes like weight, and accents. Unfortunately, these associations can even go as far as to affect our behavior towards others, even if we want to treat all people equally or genuinely believe we are egalitarian.

**MYTH: I am fully aware of my thoughts and actions, and I make all of my decisions based on facts and evidence; therefore, implicit bias does not affect my behavior.**

By their very nature, implicit biases operate outside of our conscious awareness. Thus, it is possible that your thoughts and actions are being influenced by implicit associations beyond your recognition. **In fact, researchers have found that sometimes implicit associations can more accurately predict behavior than explicit beliefs and thoughts**.

**MYTH: I'm Black; I can't have bias against Black people. I'm also a woman, so it does not make sense that I would have implicit biases against my own sex.**

Researchers have discovered that many Americans, regardless of race, display a pro-White/anti-Black bias on the Implicit Association Test. Similarly, some research has documented the prevalence of pro-male/anti-female implicit biases in both men and women. **This occurs because implicit biases are robust and pervasive affecting all individuals**, even children. We are all exposed to direct and indirect messages throughout the course of our lifetime that can implicitly influence our thoughts and evaluations of others.

## What Can We Do About It?

**MYTH: If bias is natural, there is obviously nothing we can do about it.**

Just because bias is a natural tendency does not mean that we are helpless to combat it. Indeed, **unwanted implicit biases can be mitigated**. Researchers have demonstrated the efficacy of various intervention strategies, such as intergroup contact, perspective-taking, and exposure to counter-stereotypical exemplars. By taking the time to understand your personal biases, you can begin to mitigate their effects.

**MYTH: It's a waste of time to try to mitigate my implicit biases. They do not impact anyone anyways.**

Extensive research has documented the real-world effects of implicit biases in the realms of health care, criminal justice, education, employment, and housing, among others. For example, implicit biases can affect the quality of care a patient receives, the level of encouragement students receive from their teachers, whether or not an individual receives an interview or promotion, and more. **Implicit biases have huge implications**; thus, it is important to identify your own biases and then actively engage in debiasing techniques to address them.

# 02 TRENDS IN THE FIELD

IN LIGHT OF THE VAST ATTENTION IMPLICIT BIAS RECEIVED IN 2014, this chapter seeks to highlight a few key trends that emerged from public discourse as well as academic publications. While any analysis of trends is open to interpretation, we nevertheless attempt to capture significant trends in this ever-evolving field.

## THE PUBLIC DOMAIN

Perhaps no clearer indicator of the proliferation of implicit bias into public discourse is its frequent presence in major news and media outlets. In this regard, 2014 had a strong showing, with articles appearing across a range of publications, including *The New York Times*, *The Washington Post*, *The Wall Street Journal*, *Huffington Post*, *Essence* magazine, *Forbes*, *NPR*, and *The Boston Globe*, among numerous others.

Unfortunately, the news stories that truly brought implicit bias into public discourse this year often were those that centered on deaths of Black men during interactions with police officers. Tragic circumstances made the names and stories of several of these individuals household names: Michael Brown, John Crawford, Eric Garner, Jonathan Ferrell, and Tamir Rice, sadly among others. Subsequent dialogue explored how implicit racial biases may affect who is perceived to be criminal, who is perceived to be dangerous, as well as numerous related topics. (Given the tremendous quantity of articles that advanced these conversations, the few listed here are merely examples: Brooks, 2014; Davies, 2014; Dianis, 2014; Kristof, 2014; Lopez, 2014). The death of other Black men, such as Jordan Davis, which did not occur in a policing context, still sparked further dialogue about the influence of implicit bias (see, e.g., Rosenberg, 2014).

**news stories that truly brought implicit bias into public discourse this year often were those that centered on deaths of Black men during interactions with police officers**

One byproduct of these incidents has been a frequent call for law enforcement officers to receive implicit bias training. Indeed, many police departments across

the United States were taught about the science of implicit bias and its implications for law enforcement, often through the Fair and Impartial Policing program.[3]

In the legal realm broadly, a few initiatives that connected to implicit bias were notable. On a local level, San Francisco Public Defender Jeff Adachi announced the launch of a study that will be performed in collaboration with the Quattrone Center for the Fair Administration of Justice at the University of Pennsylvania Law School. Using a decade worth of San Francisco cases involving arrests, bails, and sentences, this ambitious study will explore how unconscious bias may have contributed to arrests, prosecutions, and plea deals (Quan, 2014). Turning to a national focus, in September U.S. Attorney General Eric Holder launched a U.S. Department of Justice initiative to address the hostility that sometimes exists between law enforcement officers and the communities they serve (U.S. Department of Justice, 2014). Known as the National Initiative for Building Community Trust and Justice, the holistic approach of this federal effort includes a focus on reducing implicit bias.

Finally, discussions of implicit bias even penetrated the world of professional sports. Dialogue surrounding the influence of implicit bias appeared with respect to the accuracy of strike vs. ball calls made by Major League baseball umpires (King & Kim, 2014; Neyer, 2014), the terms used to describe Black and White athletes in NFL draft scouting reports (Prest, 2014), foul-calling by NBA referees (Ingraham, 2014), and in the hiring of Black, Asian, and Minority Ethnic (BAME) managers in the UK's Football League (Gibson, 2014a, 2014b).

#### THE ACADEMIC REALM

In addition to the increasing recognition of implicit bias work, 2014 marked another year of substantial growth for scholarly literature on implicit bias. Several areas of interest emerged from 2014 scholarly publications. One area of implicit bias research that has seen marked expansion is that of video-game based simulations. For example, Grace S. Yang and colleagues studied how White participants' experiences playing violent video games as a Black avatar affected their implicit attitudes towards Blacks (G. S. Yang, Gibson, Leuke, Huesmann, & Bushman, 2014). The video game concept was also central to Alhabash and colleagues' intervention-focused research (Alhabash & Wise, 2014).

Also on the debiasing front, strategies related to meditation and mindfulness surfaced as possible approaches to countering implicit attitudes, such as by weakening previously established automatic associations (Y. Kang, Gray, & Dovidio, 2014; Lueke & Gibson, forthcoming). Broadly speaking, research related to mitigating biases was also quite robust in 2014.

Building on previous research (Sabin & Greenwald, 2012; Weisse, Sorum, Sanders, & Syat, 2001), one consistent thread that emerged in the health realm was a

3. For more on the Fair and Impartial Policing Program, see http://fairandimpartialpolicing.com.

focus on studies addressing implicit bias in the context of perceptions of pain (D. J. Burgess et al., 2014; Mathur, Richeson, Paice, Muzyka, & Chiao, 2014; Waytz, Hoffman, & Trawalter, forthcoming). The details of these articles are discussed more fully in a later chapter.

Unsurprisingly, the Implicit Association Test (IAT)[4] continued to be the focal point of much research. Although largely outside of our focus on race and ethnicity, it is worthwhile to note the span of IAT use across a tremendous range of interests, such as self-esteem and mental health (Cai, Wu, Luo, & Yang, 2014; Mannarini & Boffo, 2014), food and alcohol consumption (see, e.g., Caudwell & Hagger, 2014; Foster, Neighbors, & Young, 2014; Guidetti, Cavazzza, & Graziani, 2014; Ostafin, Kassman, de Jong, & van Hemel-Ruiter, 2014), and weight bias (see, e.g., Phelan et al., 2014; Robinson, Ball, & Leveritt, 2014), to name a few.

Looking at the landscape of the field broadly, the criminal justice and health and health care realms were particularly robust in terms of quantity of publications. Conversely, like previous years, the housing and neighborhoods literature continues to trail other areas. With this in mind, we now turn to domain-specific literature to share highlights of some of the latest scholarly findings. ■

4. For an introduction to the Implicit Association Test (IAT), see Appendix A (Primer on Implicit Bias.)

# 03 CRIMINAL JUSTICE



*"Disparities in police stops, in prosecutorial charging, and in bail and sentencing decisions reveal that implicit racial bias has penetrated all corners of the criminal justice system."*

Dr. Nazgol Ghandnoosh, 2014, p. 4

AS ONE OF THE MORE ROBUST AREAS OF IMPLICIT BIAS RESEARCH IN 2014, criminal-justice related research addressed multiple contexts, encompassing both policing and courtroom procedures.

**SHOOTER / WEAPONS BIAS**

Reflecting on a decade of research focused on shooter bias, Correll and colleagues reviewed sociological, correlational, and experimental research on how a target's race can influence the decision to shoot (see, e.g., Correll, Park, Judd, & Wittenbrink, 2002; Correll et al., 2007; Plant & Peruche, 2005; Plant, Peruche, & Butz, 2005; Sadler, Correll, Park, & Judd, 2012). Looking across this robust body of scholarship, much of which focuses on laboratory simulations, Correll et al. acknowledged differences in shooter bias results for studies with police officer participants as opposed to laypeople. Generally speaking, while community members showed implicit racial bias with respect to both the errors they committed (i.e., "shooting" an unarmed target or refraining from "shooting" an armed target in video game scenarios) and their response times (i.e., how quickly they decide whether to "shoot"), police officers' biases only emerged with respect to response times. Seeking to explain how police officers' refrained from allowing racial biases or stereotypes to affect their shooting decisions, Correll and colleagues considered the role of cognitive control, suggesting that even though officers' may share laypersons' inclinations to "shoot" Black targets, their ability to exercise cognitive control may allow them to minimize bias (Correll, Hudson, Guillermo, & Ma, 2014). Cognitive control may be impeded by circumstance such as high cognitive load, fatigue, and feelings of fear and high arousal (e.g., panic) (Correll et al., 2014). On the cognitive control front, related research suggests that

"effortful, deliberative processing" can help mitigate the influence of implicit bias (J. Kang et al., 2012, p. 1177).

In light of the many studies cited in the previous paragraph demonstrating race-related effects on decisions to shoot in mock police scenarios, researchers James, Klinger, and Vila desired to address limitations of previous findings' external validity (James, Klinger, & Vila, 2014). To do so, they recruited 48 individuals to participate in an innovative study that immersed subjects in vivid, real-life scenarios. Participants viewed a life-sized movie portrayal of an event that a police officer would typically observe and made a decision on whether or not to "shoot" using a mock-gun that recorded reaction times when the trigger was pulled. During the trials, participants' alpha waves were measured to provide information on perceived threat. Alpha wave analysis showed that participants exhibited higher levels of threat when encountering Black individuals than Hispanic or White individuals; however, the level of threat was not related to increased shooting behavior when encountering Black subjects. In fact, reaction times were slower when participants shot at a Black individual than a Hispanic or White individual (James et al., 2014). The authors mentioned counter-bias (e.g., reservations about shooting Black individual regardless of weapon possession due to one's awareness of racial bias in the justice system) as a possible explanation for the counterintuitive results. Additionally, the authors noted that education on the parameters for what necessitates shooting behavior and exposure to realistic scenarios could mitigate the race-related disparities evidenced in other bodies of research (James et al., 2014).

#### POLICE OFFICERS AND IMPLICIT BIAS TRAINING

A 2014 report by The Portland Police Bureau acknowledged that traffic stop and search records exhibited race-related discrepancies (e.g. Blacks were searched at a higher rate than Whites) and documented the Bureau's response (Stewart & Covelli, 2014). The Portland Police Bureau and the Community Police Relations Committee (CPRC) recommendations included a multifaceted training process directed toward decreasing officers' implicit biases as the primary method for decreasing acts of racial profiling overall.

A report by Baumgartner, Epp, and Love analyzed data from 250,000 recorded traffic stops that occurred over 13 years in Durham, North Carolina. Findings revealed that Black males were stopped and searched at double the rate of White males and ten times the rate of White females (Baumgartner, Epp, & Love, 2014). The authors noted implicit bias as an explanation for the data, particularly if police held false beliefs about the rate at which minorities engage in criminal behavior. To advise their audience, the authors suggested that "all departments utilize the growing research on implicit bias and systemic and cultural racism to explore how the department on a whole is creating racially inequitable outcomes, in spite of intent to the contrary" (Baumgartner et al., 2014, p. 30).

## Real World Implications:

**JOE IS A 33-YEAR-OLD WHITE MALE** that lives in small suburban community. He was recently given a promotion and used this opportunity to purchase a new vehicle. He celebrated the promotion and the purchase by spending his afternoon cruising though the surrounding neighborhoods and listening to music. Joe particularly enjoyed driving though the affluent, mainly White neighborhood of Straydenstown as he admired the avant-garde architecture and immaculate landscaping. He returned home for a celebration dinner with his family feeling relaxed and pleased with his joyride.

**SAMUEL IS A 35-YEAR-OLD AFRICAN AMERICAN MALE** who lives in a medium-sized suburb. Samuel was recently hired by a competitive marketing firm, and after years of saving, he was able t o use his first paycheck to help purchase a new car. Samuel enjoyed his afternoon by testing out his new car and listening to music on a long drive around the area. Samuel made his way around Straydenstown and was pulled over by police Officer Webb.

Though Officer Webb sincerely believed he possessed egalitarian values, his lack of interpersonal contact with members of other racial groups in this predominantly White neighborhood continued to enhance his negative implicit biases toward Blacks. Because of his implicit bias associating Black drivers with criminal activity, Officer Webb searched **SAMUEL**'s vehicle. Though no incriminating items were found in his possession, Samuel was eventually given a ticket.

Two weeks later, Samuel took an unpaid half-day at work to contest his ticket in front of a White female judge, Judge West. Though Judge West is a firm believer in upholding the highest degree of justice for all people in her courtroom, she is still susceptible to the influence of implicit bias in her decision making, specifically in the presence of an outgroup member. Because of her implicit racial biases, Judge West believed the officer's report was more credible than Samuel's testimony. She required Samuel to pay the full extent of the ticket as well as an additional court fee.

**JUDGES**

Judicial Performance Evaluations (JPEs), ratings determined by attorneys and other judicial staff that hold judges accountable to performance standards, have served as a fundamental component for selecting judges. Although these instruments aim to add objectivity to the selection process, some evidence suggests that JPEs have historically exhibited bias against women and minorities, due to patterns of lower performance ratings by gender and race. With an eye toward implicit bias, Gill performed a factor analysis using aggregate JPE survey data of attorneys' rankings of judges with whom they had previously worked (Gill, 2014). The analysis, which included 94 judges and produced 350 scores, showed that women and minority judges scored lower on measures asking whether they should be retained than male or White judges. Additionally, women and minorities were significantly more likely to be rated as "not adequate" and significantly less likely to be rated as "more than adequate" (Gill, 2014). The author regards this disproportionate scoring for women and minorities, even when controlling for all relevant factors, as evidence of implicit racial bias in the evaluation process. Additionally, Gill recommended the use of behaviorally anchored ratings scales (BARS), which provide concrete examples of desired behavior, as a way to reduce bias and improve test reliability and validity (For more information about behaviorally anchored rating scales, see P. C. Smith & Kendall, 1963).

Similarly, in response to research highlighting implicit biases in legal decision makers (Papillon, 2013; Rachlinski, Johnson, Wistrich, & Guthrie, 2009), Sen ana-

lyzed American Bar Association (ABA) ratings for a negative bias toward women and minorities (Sen, 2014). She examined data from 1,652 US district judges who were confirmed from 1960 to 2012, and 121 individuals who were formally nominated but not confirmed. Findings demonstrated that women, African Americans, and Hispanics were associated with lower ABA ratings, even after controlling for education, race, gender, political affiliation, and prior experience (Sen, 2014). To explain the discrepancy in ABA ratings, Sen mentioned implicit biases as a potential cause, and specifically noted the existing stereotypes that White males exhibit more "judicial" characteristics measured by the ABA (e.g., temperament and integrity) than women or minority judges as an underlying factor (Sen, 2014).



#### JURORS & JURY INSTRUCTIONS

Another potential route for implicit bias to influence court proceedings is through sentencing. Researchers Levinson, Smith, and Young explored implicit bias as a potential cause of unequal distribution of death sentences by race (Levinson, Smith, & Young, 2014). To test this hypothesis, the authors recruited 445 citizens from six states with the highest death penalty rates. Participants took an IAT measuring general Black/White bias, as well as an IAT measuring the association between race and the value of life. Analyses revealed a number of striking results related to implicit bias, namely, subjects showed an overall implicit bias favoring Whites and viewing them as having more "worth" than Blacks (Levinson et al., 2014). Moreover, citizens who qualified to sit on a jury for death penalty cases exhibited stronger implicit racial biases than the jurors who were excluded. These results are crucial when paired with the other finding that racial bias (both explicit and implicit) correlated with death penalty verdicts (see also Eberhardt et al., 2006; Goff, Eberhardt, Williams, & Jackson, 2008).

When serving on a jury, jurors are required to connect details from a trial and often rely on schemas to fill in the narrative gaps (Elek & Hannaford-Agor, 2014). This strategy can make jury members particularly vulnerable to the effects of implicit bias; therefore, some judges have devised their own set of jury instructions that specially address implicit bias in order to decrease its influence on case decisions (see, e.g., Bennett, 2010). Elek and Hannaford-Agor examined the efficacy of these specialized instructions (Elek & Hannaford-Agor, 2014). An online panel of 561 participants completed a two-part study where they acted as a juror in a mock trial. Part 1 asked participants to decide on the mock trial verdict, sentencing recommendations, and the strength of the case. Participants' scenarios were counterbalanced based on defendant race (Black or White), victim race (Black or White), and whether instructions included information on implicit bias. In part two, participants took the IAT. Though participants showed a significant preference for Whites on the IAT, the study did not replicate the original juror bias effect found in previous research (specifically Sommers & Ellsworth, 2001). Thus, the effects of implicit bias-focused instructions could not be measured. The authors noted the saliency of race-related trials, such as the Zimmerman case, receiving

attention during the study may have influenced participants to self-monitor and correct for bias during the study (Elek & Hannaford-Agor, 2014).

Expanding the existing literature on how implicit bias can operate in courtroom settings, Young, Levinson, and Sinnett conducted an experiment to investigate whether the presumption of innocence instructions (i.e., instructions given to jurors stating that the defendant is innocent until proven guilty) may unintentionally prime racial constructs rather than serving their intended purpose of ensuring a fair trial. Juror instructions related to the presumption of innocence are given verbally. As such, the authors note that in this study, they are interpreting the term "implicit" to mean that the jurors "may be unaware of the racial cue embedded in a stimulus" rather than the racial cue being presented outside of conscious awareness (Young, Levinson, & Sinnett, 2014, p. 2). Using a dot-probe priming task to assess response latency to Black versus White faces, the researchers found that compared to a control group, participants who received the presumption of innocence instructions responded more quickly to Black faces versus White (Young et al., 2014). Thus, the researchers asserted that implicit racial cues such as the presumption of innocence instructions may affect jurors' unconscious attention to race, although whether this additional attention advantages or disadvantages Black individuals remains unclear.

**implicit racial cues such as the presumption of innocence instructions may affect jurors' unconscious attention to race**

**BROADER CONTRIBUTIONS**

A 2014 Hastings Law Journal article reproduced an August 2013 keynote given by Deputy Attorney General James Cole and Public Defender Jeffrey Adachi at the Mandatory Continuing Legal Education (MCLE) conference on Criminal Litigation Ethics regarding important ethical issues in the legal field (Little, 2014). Adachi drew connections between contemporary implicit bias research and the many ethical dilemmas that exist in the legal system by highlighting differences in juror selection, arrests, and sentencing that pertained to race. He ended the speech by imploring the audience to consider their own biases and consciously act against them.

The Charlottesville DMC (disproportionate minority contact) report outlined task-force findings related to overrepresentation of African Americans in the juvenile justice system (Warner, Walker, & N. Dickon Reppucci, 2014). By analyzing court data and community interviews, the task force sought to determine what factors contributed to racial inequality in number of arrests and likelihood of receiving probation. When they reflected on why African Americans were arrested more than Whites, community interviews and notes from the authors acknowledged the presence of implicit bias as a source for the racial disproportionality.

Finally, two book chapters addressed implicit bias in this realm. First, in *Suspicion Nation*, author Lisa Bloom dedicates a chapter to demonstrating how implicit bias can play a large role in systematic disadvantages for minorities in education, health care, and legal domains (Bloom, 2014). The author reflects on implicit bias as a contributor in every stage of the U.S. judicial system, specifically as it related to the Trayvon Martin tragedy. Second, in an chapter of *America's Growing Inequality*, Eva Paterson elaborated on the use of implicit bias in litigation, particularly in response to rulings under the Intent Doctrine (i.e., a perpetrator must have intent to discriminate) (Paterson, 2014). Paterson advocated for the use of implicit bias research as a part of the long contribution of the social sciences in the legal realm. She concluded with using our understanding of implicit bias as an entry point for discussing race and ultimately creating powerful racial justice discourse.



**REDUCING IMPLICIT BIAS IN THE COURT SYSTEM**

With an eye towards minimizing the influence of implicit bias in the judicial system (Casey, Warren, Cheesman, & Elek, 2013; National Center for State Courts), a few contributions continued this conversation in 2014.

A new publication by The Sentencing Project on racial perceptions and punishment explored implicit bias as a source for Whites' associations between minorities and crime and the legal ramifications that follow (Ghandnoosh, 2014). Taking a broad perspective, the author poignantly stated, "Disparities in police stops, in prosecutorial charging, and in bail and sentencing decisions reveal that implicit racial bias has penetrated all corners of the criminal justice system" (Ghandnoosh, 2014, p. 4). Additionally, the report provided an overview of key findings in implicit bias research and included a thorough description of the IAT and its implications for informing the literature, closing with a number of bias-reduction strategies for the media and researchers, as well as policymakers.

Negowetti helped bridge the gap between the growing significance of implicit bias in the cognitive science literature and its application in the legal community by conducting an empirical literature review (Negowetti, 2014). The article reviewed the methods by which implicit bias influences attorney and judicial decision making and provided personal anecdotes from legal professionals who have experienced the effects of implicit bias in their occupation. Negowetti concluded with an overview of ways to diminish the power of implicit bias in courtroom decisions, such as using effortful, deliberative processing (J. Kang et al., 2012), uplifting egalitarian motivations (Dasgupta & Rivera, 2006; Moskowitz, Gollwitzer, Wasel, & Schaal, 1999), and education and awareness raising on implicit bias (J. Kang et al., 2012).

In his article outlining racial disparities in the justice system, Clemons referenced specific cases and policies in terms of how they served to perpetuate im-

plicit bias (Clemons, 2014). Special emphasis was given to NYPD's "stop and frisk" policy for operating under the rationale of "reasonable suspicion" which allows key members of the legal system the discretion to act on their biases (Clemons, 2014). Clemons closed the article by acknowledging that efforts to decrease instances of racial disparity in the justice system will ultimately require the courts to consider implicit bias when interpreting cases regarding equal protection, and he calls for more research to support this notion.

Finally, Sterling dedicated an entire section to the implications of implicit bias in her recent work regarding the history of the right to counsel and the overrepresentation of minorities in the criminal justice system, arguing that public counsel representation is inadequate to address racial and systemic injustice (Sterling, 2014). Here, she outlined some of the relevant research on implicit racial bias in the criminal justice system and provides two solutions to decreasing the effects of bias. First, Sterling described the use of narrative as a method for transforming the jurors' perception of a defendant from a stereotyped version to multi-dimensional view of the individual. Additionally, she advocated for the use of jury instructions that explicitly describe implicit bias and how jurors can act against it, which resonates with previous articles by scholars encouraging implicit bias education and awareness for those who serve on juries (Bennett, 2010; Larson, 2010; Reynolds, 2013; Roberts, 2012). ■

# 04 HEALTH AND HEALTH CARE

*"Indirect evidence indicates that bias, stereotyping, prejudice, and clinical uncertainty on the part of healthcare providers may be contributory factors to racial and ethnic disparities in healthcare. Prejudice may stem from conscious bias, while stereotyping and biases may be conscious or unconscious, even among the well intentioned."*

Dr. Brian D. Smedley, Dr. Adrienne Y. Stith, and Dr. Alan R. Nelson, Eds., 2003, p. 178



IN A NOTABLE DIVERGENCE FROM PREVIOUS LITERATURE, SEVERAL 2014 health articles failed to establish a connection between physicians' implicit biases and treatment decisions by race. As discussed below, study designs and unique participant pools may provide a partial explanation for these distinct findings. In addition to differential treatment literature, this chapter also addresses implicit bias and patient wellbeing, doctor-patient interactions, and medical school education.

**DIFFERENTIAL TREATMENT**

Adding to the existing literature on implicit bias and perceptions of pain (Sabin & Greenwald, 2012; Weisse et al., 2001), Mathur et al. used both implicit and explicit primes in a study designed to identify how these two types of biases may affect perceptions of and responses to hypothetical patients' pain. Undergraduate participants were instructed to imagine they were working at a Student Health Center. Following this prompt, participants evaluated ten case reports of patients' pain. Some participants were implicitly primed with a facial photograph of an African American or European American male for 30 milliseconds prior to reading the case study; in the explicit condition, participants viewed the photograph for seven seconds. Results demonstrated that implicit and explicit race biases yielded contrasting results. When explicitly primed, participants perceived and responded to the pain of African American patients more strongly

## Real World Implications:

**GLENN, A WHITE AMERICAN MALE**, arrived at Ivy University Hospital emergency room with chronic knee pain and swelling. He checked in with the receptionist and soon after was sent back to see a doctor. While waiting for the doctor, a nurse entered his room and offered him pain medicine to alleviate his knee pain. He took the medicine and soon was seen by a doctor.

On that same night, **JEROME, AN AFRICAN AMERICAN MALE**, arrived at the same hospital also with excessive and chronic knee pain and swelling. After checking in with the receptionist, he waited for more than two hours before being sent back to a check-up room. When he inquired about wait time, the receptionist responded with annoyance that she would call his name when they are ready for him. The receptionist implicitly valued White Americans more and prioritized them when cataloguing patients. Once finally admitted, a nurse entered Jerome's room to check his vitals before the doctor arrived. Jerome asked the nurse for pain medicine and was told that he could not receive medicine until the doctor arrived. The nurse had an implicit bias which altered her perception of Jerome's pain; she didn't believe he was in as much pain as he claimed. As such, he was forced to wait in pain.

than the European American patients; however, the implicit primes produced the opposite results (Mathur et al., 2014). These findings led Mathur and colleagues to conclude that perceptions of pain and related treatment decisions may be at least partially attributed to automatic cognitive processes.

In contrast, a 2014 study by Irene V. Blair and colleagues found that implicit biases did not affect the care Black or Latino hypertension patients received from primary care clinicians, nor did it affect the patients' outcomes in their study (Blair et al., 2014). The authors acknowledge several unique attributes of their study population that may have influenced these results and minimized implicit bias, including the presence of established relationships between clinicians and patients, the presence of checks and balances among primary care teams in the integrated health care systems being studied, and minimized time pressures due to the patients being assessed over the course of several years. An editorial by Ravenell and Ogedegbe underscored aspects of this Blair study that are particularly noteworthy (Ravenell & Ogedegbe, 2014). Ravenell and Ogedegbe stated that prior to the Blair study, much of the existing literature relied on a combination of physician IAT scores and their responses to hypothetical vignettes, which may not necessarily reflect physicians' actual behavior with actual patients. Thus, this article by Blair represents an important move from hypothetical scenarios to data involving actual patients. The authors also emphasized that even though this Blair study did not show a relationship between implicit bias and health outcomes, this should not detract from many other studies that do demonstrate unfavorable impacts of implicit biases in health contexts (see, e.g., Blair et al., 2013; Cooper et al., 2012; A. R. Green et al., 2007; Penner et al., 2010; Sabin & Greenwald, 2012). Rather, Blair and colleagues' work sheds light on strategies employed by health systems that can serve as institutional interventions to reduce the expression of bias (Ravenell & Ogedegbe, 2014).

Also on the topic of pain management, in an attempt to assess the impact of implicit bias on clinical decision-making, Burgess and colleagues designed a study that analyzed the effects of cognitive load and patient race on physicians' decisions to prescribe opioids for lower back pain. The authors of this study randomly assigned physicians to clinical vignettes that differed both in terms of patient race as well as cognitive load. The cognitive load was induced by asking some physicians to make a prescription recommendation while simultaneously completing a second memory exercise under a time constraint (D. J. Burgess et al., 2014). The researchers found that male physicians were more likely to prescribe opioids to White patients than Black in the high cognitive load scenario but that the reverse was true in the low cognitive load scenario. This aligns with research that demonstrates the correlation among high levels of cognitive loads, high stress environments and the reliance on automatic or unconscious processes in which stereotypes and unconscious beliefs are more likely to be activated (Bertrand, Chugh, & Mullainathan, 2005; White III, 2014). These findings did not hold for female physicians who were in both settings more likely to prescribe African American

patients with opioids. However, as Burgess et al. outlined, previous research suggests that men are more likely to engage in active bias whereas women are more likely to engage in bias that manifests in the form of avoidance (D. J. Burgess et al., 2014). This phenomenon could explain the gender difference in the results.

Moving beyond pain-focused literature, a recent study conducted by Oliver et al. analyzed whether physicians' implicit biases were connected to treatment disparities for osteoarthritis (OA) among African Americans patients. OA is diagnosed at a higher rate among African Americans than Whites; yet, total knee replacement (TKR)—a cost effective treatment option—is utilized half as often for African American patients (Oliver, Wells, Joy-Gaba, Hawkins, & Nosek, 2014). To evaluate the role of physicians' implicit biases in this disparity, Oliver and colleagues presented physicians with a clinical vignette indicating diagnostic criteria for OA that would suggest TKR as an appropriate treatment option. Included with the vignette was a small photograph of either an African American or a White man in his 50s or 60s. Participants' implicit biases were assessed utilizing the race preference IAT and the race medical cooperativeness IAT either prior to (for the experimental group) or after (for the control group) reviewing the clinical vignette and providing a treatment recommendation. The results demonstrated that while physicians were more likely to recommend TKR to all patients if they completed the IAT prior to reviewing the clinical vignette, there was no relationship between participants' implicit biases and treatment recommendation differences by race in this study (Oliver et al., 2014). This finding contrasts previous studies which demonstrate a relationship between physician bias and healthcare disparities (Chapman, Kaatz, & Carnes, 2013); however, previous studies should not be readily dismissed. As acknowledged by the authors, an overwhelming majority of the participants in the Oliver et al. study had previous exposure to the concept of implicit bias and were recruited directly from the Project Implicit website (Oliver et al., 2014). Furthermore, the participants report-

It turns out that both **GLENN** and **JEROME** suffered from osteoarthritis and were in need of treatment. Despite both individuals having comparable health insurance and nearly identical symptoms, Glenn received a recommendation of total knee replacement while Jerome was told merely to work out and lose weight. Unfortunately, Jerome's doctor did not interact often with African American patients and possessed implicit biases that altered his medical judgment. The doctor implicitly assumed that even if he did recommend total knee replacement, Jerome would not adhere to the treatment.

ed that 30 percent or more of their regular patients were African American. Thus these clinicians were exposed to a disproportionate share of contact with African Americans relative to the U.S. population (Oliver et al., 2014). This factor - intergroup contact - has been found to be an effective intervention for mitigating the effects of implicit bias (Allport, 1954; Pettigrew, 1997; Pettigrew & Tropp, 2006).

A similar study sought to assess the impact of trauma surgeons' implicit racial and class biases on trauma outcome disparities. Haider et al. commissioned trauma surgeons to review nine clinical vignettes, each with three accompanying clinical management questions. The surgeons then completed both a race and a social class IAT assessment, followed by a questionnaire detailing their explicit beliefs (Haider et al., 2014). While the authors found no statistically significant correlation between the vignette responses and the IAT assessments, they detected two interesting trends in vignette responses: (1) Surgeons who reviewed vignettes of Black patients were more likely to believe there was a hidden history of alcohol abuse in a postplenectomy trauma patient compared with those who viewed vignettes of White patients; (2) Surgeons were also more likely to believe the patient posed a threat to himself or others if the presented patient was Black versus if the presented patient was White (Haider et al., 2014).

Haider and colleagues acknowledged several important design limitations of their study, which may explain the results. Most notable are the study's settings and the protocol driven nature of trauma surgery (Haider et al., 2014). Trauma surgeons work in high-stress, time constrained, and high mental and physical fatigue environments—environments in which implicit bias can impact judgments and decision-making (Bertrand et al., 2005). The research design utilized by Haider and colleagues neglected to replicate this environment; thus, surgeons were able to assess the vignettes at their leisure and in an environment of their choosing. Conversely, it is widely accepted among scholars that implicit biases are most likely to operate in situations of high subjectivity (M. Hart, 2005; Wax, 1999); therefore, the uniquely protocol driven nature of trauma care may mitigate the impact of implicit biases on clinical decision-making (Haider et al., 2014). These dynamics may explain lack of statistical correlation in clinical decision-making despite the identified biases in perceptions of Black patients.

Finally, the potential impact of implicit bias on medical decision-making was also acknowledged by Ibaraki and colleagues in their analysis of cancer screening and mortality disparities among Asian Americans. Asian Americans are more likely than any other population to die from cancer; yet, they are least likely to be recommended for cancer screening relative to other populations (Ibaraki, Hall, & Sabin, 2014). The authors believe implicit bias and medical stereotypes regarding Asian Americans impede on physicians' decision-making process leading to the disparity at hand. Ibaraki et al. declare the need for future studies that work to improve our understanding of implicit bias' role in cancer screening disparities and formulate intervention approaches (Ibaraki et al., 2014).

### IMPLICIT BIAS AND PATIENT WELLBEING

Adding to their existing literature on the existence and impact of anti-ingroup racial bias (D. H. Chae, Nuru-Jeter, & Adler, 2012), David H. Chae and colleagues examined the relationship between perceptions of racial discrimination, in-group implicit racial bias, and leukocyte telomere length (LTL) in African American men. LTL has been associated with several aging-related health outcomes, with individuals whose LTL are shorter being most susceptible to major illnesses while aging. It has been suggested that psychosocial and physiologic stressors can lead to the acceleration of LTL shortening and the onset of chronic diseases (D. Chae, H et al., 2014). In this study, Chae and colleagues assessed African American male participants' level of implicit anti-Black bias, their perceptions of racial discrimination, and their LTL. After controlling for both health-related variables and socioeconomic demographics, Chae et al. found shorter LTL's to be significantly correlated with African American men who reported higher levels of racial discrimination and possessed implicit anti-Black bias (D. Chae, H et al., 2014). These findings demonstrate the ways in which implicit anti-ingroup bias and racial discrimination can act concurrently to impact patient wellbeing.

**Asian Americans are more likely than any other population to die from cancer; yet, they are least likely to be recommended for cancer screening**

Researchers Waytz, Hoffman, and Trawalter implemented five studies to examine the phenomena of White individuals superhumanizing or dehumanizing Black individuals relative to Whites and assessed whether these biased perceptions of superhuman qualities are related to perceptions of pain according to target's race (Waytz et al., forthcoming). The notion of superhumanization comes from an ingroup's limited ability to infer of the physical and internal states of outgroup members. Across several studies, the main findings were:

- Study 1 asked 30 White undergraduates to complete an IAT, which measured associations between Black and White and human vs. super-human words (e.g., ghost, spirit, wizard). Results showed that participants implicitly associated super-human words with Blacks more quickly than with Whites, overall.

- Study 2a and 2b replicated results from study 1 with 61 total participants who completed an implicit categorization task. Overall, participants associated super-human words with Black opposed to White faces. Interestingly, study 2a demonstrated that participants also associated subhuman words (e.g., monster, devil, beast) with Black as opposed to White stimuli in what the authors call a "simultaneous subhumanization and superhumanization of Blacks" (Waytz et al., forthcoming, n.p.).

■ A third study demonstrated 94 White participants also endorsed *explicit* super-humanization of Blacks opposed to Whites on an online forced-choice questionnaire.

■ Taking these considerations into a health care context, study 4 examined responses from 190 White participants assessing perception of pain for Black and White targets. Participants were given short vignettes accompanied by a photograph that described either a Black or a White individual. Participants were asked to answer several questions from the perspective of the vignettes they read and were subsequently asked "Which of these people do you think requires more pain medication to reduce the pain they have experienced?" (Waytz et al., forthcoming, n.p.). Results showed that participants viewed Blacks as experiencing less pain verses Whites, in general. Moreover, level of explicit super-humanization of Blacks predicted pain attribution (e.g., participants who viewed Blacks as more superhuman also believed they experienced less pain relative to Whites).

Collectively, these studies provide an empirical demonstration of Whites super-humanizing Blacks both implicitly and explicitly. They also "provide evidence for a novel contributor to prejudice in showing that superhumanization is associated with diminished recognition of Blacks' pain" (Waytz et al., forthcoming, n.p.).

#### DOCTOR–PATIENT INTERACTIONS

A study conducted by Hagiwara and colleagues assessed patient-physician communication between non-Black physicians and Black patients using a One-With-Many (OWM) analytical research design. Through the OWM design, they acquired information from both the physicians and the patients through self-reporting measures as well as video surveillance of non-intrusive doctors' appointments. This data was cross-referenced with physician race preference IAT data in order to detect the impact implicit racial bias has on physician-patient communication. The results revealed that physicians with implicit anti-Black bias were less likely to report high levels of perceived "teamness" with their Black patients (Hagiwara, Kashy, & Penner, 2014). (Teamness refers to the degree to which the patient and physician perceived that they were working cooperatively to address the patient's medical concerns.) Furthermore, as the level of implicit anti-Black bias rose, the level of perceived teamness decreased accordingly. These results may have important implications as the study also revealed, "patients whose physicians talked more or reported higher perceived teamness with them, relative to other patients seeing that same physician, were more likely to adhere [to treatment recommendations] after the interactions" (Hagiwara et al., 2014, p. 330). This work connects to previous literature linking primary care clinicians with higher IAT race bias to Black patients feeling like they received less respect and had less confidence in the clinician (Cooper et al., 2012).

**GLENN** eventually went on to receive the total knee replacement treatment the physician recommended. After all, he had an overall great experience at Ivy University Hospital and felt that the doctors and nurses had his best interests in mind.

Alternatively, having experienced long wait-times, no pain medicine, and a recommendation only to work out and lose weight, **JEROME** questioned whether the doctors truly wanted to help him. After all, how can he work out if he is in so much pain? Furthermore, the doctors dominated the conversation, never asked Jerome how he felt, and made it difficult for Jerome to ask questions. As such, he decided not to follow the doctor's recommendation and sought advice from friends and family instead on how to cope with his pain. His osteoarthritis never improved, and the areas surrounding his knee began to deteriorate. This type of reaction to negatively perceived health care treatment is not uncommon. Jerome, like many individuals, is more likely to follow the medical treatment of a physician he trusts than that of a physician he does not think really wants to help him.

An analysis by Nolan et al. found that the implicit biases inherent in doctor-patient interactions were related to racial disparities in cervical cancer screenings and follow-up care among Black women in Massachusetts. The authors conducted a series of focus groups with non-Hispanic Black women from varying backgrounds: women from the general population, cervical cancer survivors, community leaders in women's health, and health care providers (Nolan et al., 2014). The women in the study cited unconscious bias as one of the causes for the disparities, with two of the cervical cancer survivors stating they perceived that, "their doctors did not want to touch them" (Nolan et al., 2014, p. 584). The results derived from this study support previous literature which connects implicit bias to subtle nuances in physician-patient interactions, trust, and patient cooperativeness (Blair et al., 2013; Cooper et al., 2012; Moskowitz, Stone, & Childs, 2012; Penner et al., 2010).

Finally, with an eye towards the mental health field, Katz and Hoyt analyzed multiple predictors of counselors' anti-Black bias using a sample of 97 health professionals (Katz & Hoyt, 2014). Participants were asked to respond to two online case study scenarios as if they were a therapist. They rated their perception of the client's bond with themselves with the Working Alliance Inventory (WAI) and their interpretation of prognosis using the Therapist Expectancy Inventory (TEI). (For more details of these measures, see Bernstein, Lecomte, & Desharnais, 1983; Horvath & Greenberg, 1989.) Among other measures of bias, the authors

used the IAT as an indicator of implicit bias toward Blacks. Results showed that implicit, automatic measures of prejudice were the strongest predictor of racial bias in perception of client bond. Recognizing that implicit prejudice is outside of conscious awareness, the authors reflect that this "could have an especially deleterious impact on psychotherapy, where interpersonal contact is part of the healing medium" (Katz & Hoyt, 2014, p. 302).

Several years later **GLENN** suffered from a debilitating car accident that left him unable to work. Similarly, **JEROME**'s untreated osteoarthritis left him unable to work or be self-sufficient. As a result, both men began to experience bouts of depression and decided to seek therapy treatment.

Glenn, able to find a therapist of the same race and gender as himself, was quickly able to find a therapist he could connect with, and in time his depression began to subside. Jerome, unable to find an African American therapist, eventually sought care from a White male as well. In his appointments, Jerome maintained that his chronic knee and leg pains were due, at least in part, to the racial discrimination he faced at Ivy University Hospital. However, his therapist remained adamant that the key to Jerome feeling better was to take responsibility for not following the doctor's recommendation. The therapist had an implicit association of Jerome as a non-pleasant client and therefore was unable to connect with him nor seek to fully understand his perspective. They were unable to find common ground and instead of Jerome getting better, his depression worsened as he began to feel misunderstood and stereotyped by his therapist.

**MEDICAL SCHOOL EDUCATION**

Given the large body of literature that suggests the influence of implicit bias across a range of medical situations, the question of when and how to introduce these ideas to medical school students, as well as possible frameworks for doing so, has been an ongoing area of research (D. Burgess, van Ryn, Dovidio, & Saha, 2007; R. A. Hernandez, Haidet, Gill, & Teal, 2013; Teal, Gill, Green, & Crandall, 2012).

In a new piece on this topic, Gonzalez, Kim, and Marantz (2014) examined third-year medical students' responses to an educational intervention that addressed both health disparities and physicians' implicit biases. Students who participated in a two hour session were assigned required readings related to the previous two topics, were required to write a description of a situation they witnessed

that indicated the presence of physician bias or stereotyping, and completed an Implicit Association Test. Faculty-led discussion in the session included time devoted to students' personal experiences and considerations of how biases may affect one's actions. Following this intervention, researchers administered a survey to assess students' attitudes regarding implicit bias and found that 22% of students disagreed with the notion that "Unconscious bias might affect some of my clinical decisions or behaviors" (Gonzalez, Kim, & Marantz, 2014, p. 66). Gonzalez and colleagues noted that while this finding suggests that "there is a subgroup of students for whom it may be especially challenging to teach about the existence of and physicians' contribution to health disparities," the authors assert that "health disparities curricula with implicit bias instruction should be a standard component of the compulsory longitudinal curriculum" (Gonzalez et al., 2014, pp. 69, 68).

**OTHER RECOMMENDATIONS**

Chloë Fitzgerald made a case for the inclusion of implicit bias in discussions about conscience in the field of bioethics. She elaborates on the necessity of understanding implicit bias as a way to maintain ones' conscience; that is, conscience should involve being aware of how implicit attitudes may be causing a misalignment between one's actions and his/her values (Fitzgerald, 2014). She concludes with recommendations on how to use this information to further ethical training of healthcare professionals, such as through reflective practices and dedicated workshops to raise awareness of implicit bias. ■

# 05 EMPLOYMENT

*"Across the globe there is a tremendous amount of untapped human potential due, in many instances, to unconscious bias."*

Billie Jean King, sports icon and human rights advocate, on workplace dynamics. November 19, 2014



AS DETAILED IN THE OPENING CHAPTER, THE EMPLOYMENT REALM remained a key driver of implicit bias dialogue in 2014. Adding to this conversation was a short video that permeated mainstream media detailing one man's experience with unconscious bias while searching for a job. By dropping one letter, thereby changing the name on his resume from José to Joe, he received a notably different response from employers despite leaving the rest of his resume unchanged. His unscientific experiment echoes existing research documenting how names on resumes can provoke implicit biases and affect callback rates (see, e.g., Bertrand et al., 2005; Carlsson & Rooth, 2007). José acknowledges implicit bias: "Sometimes I don't even think people know or are conscious or aware that they're judging—even if it's by name—but I think we all do it all the time" (Matthews, 2014).

### EVALUATING AND RATING APPLICANTS

From an international perspective, Wojcieszak examined how intergroup contact with immigrant minorities affects aversive racism (i.e., avoidance of interaction with other racial groups) for Spanish citizens (Wojcieszak, 2014). The author conceptualized aversive racism as a form of implicit bias, as it is subtle and not accounted for by explicit measures of prejudice. To test this intergroup contact idea, 506 Spanish undergraduates were asked to rate potential candidates in a mock hiring scenario for a university position that would require a high degree of contact with this applicant. Candidates were either Spanish, Mexican, or Moroccan. The scenarios expressed candidates' varied levels of competency through a weak, moderate, or strong resume. Results showed racially-biased discrepancies when rating applicants on the same experience levels (Wojcieszak, 2014). In a notable departure from previous literature, in this Spanish sample, intergroup

contact with minority friends and members of the community only affected overt and not implicit attitudes. As a tentative explanation, Wojcieszak considers whether intergroup contact may only affect overt attitudes; however, Wojcieszak notes that this assertion is quite preliminary given that her work focused on one student sample in one specific city and sociopolitical context.

Recognizing the importance of intersectionality, Derous et al. focused on the relationship between race and gender in the hiring process. The authors identify two hypotheses: double jeopardy and subordinate male target. The double jeopardy hypothesis posits that ethnic minority females experience more discrimination than ethnic minority males, while the subordinate male target hypothesis suggests that ethnic minority males experience more discrimination than ethnic minority females. Double jeopardy focuses on the dual obstacles that ethnic minority females face in the employment sector; not only are ethnic minority group members viewed as less competent than ethnic majority group members, but also, females are considered to be less suited for certain jobs than males. Conversely, ethnic minority males are sometimes viewed as "threatening" and therefore are not considered for particular jobs (Derous, Ryan, & Serlie, 2014, n.p.).

Derous and colleagues' study considered racial and gender bias in the employment realm in the Netherlands, comparing the Arab population in the Netherlands with non-White ethnic minorities in the U.S. in terms of employment outcomes. Researchers asked 60 non-Arab/Dutch recruiters to review various resumes for jobs with varying levels of client contact. Each recruiter evaluated the job-suitability of four resumes: one male Arab-Dutch candidate, one female Arab-Dutch candidate, one male non-Arab/Dutch candidate, and one female non-Arab/Dutch candidate. The recruiters' explicit and implicit attitudes toward Arab people and women were also measured. The researchers found evidence of the subordinate male target hypothesis, noting that the Arab men were not recommended for jobs with high levels of client contact, suggesting that Arab women are more suited to interpersonal interactions with clients than men (Derous et al., 2014). The authors also studied ethnicity salience, finding that the more cues related to ethnicity appear on an applicant's resume, the more likely it is that the recruiter will engage in ethnic bias. Researchers noted that there are varying degrees of "outgroupness" that can affect how an applicant is treated. In this situation, the more "Arab" the application was perceived to be, the lower the ratings given by recruiters. Outside of the gender context, the findings here align with 2007 work by Carlsson and Rooth that found that the probability of an interview callback for applicants with Arab/Muslim sounding names declined by 6% when the recruiter had at least a moderate negative implicit stereotype towards Arabs/Muslims (Carlsson & Rooth, 2007).

### PERFORMANCE EVALUATIONS

Another employment-focused study considered how confirmation bias can unconsciously influence the evaluation of employees' work products. Nextions researchers crafted a fictitious legal research memo that 60 law firm partners reviewed under the guise of a "writing analysis study" (Reeves, 2014, p. 3). All partners received the same memo that contained deliberate errors. Half of the memos listed the author as a third year associate who was African American; the other half noted a Caucasian author. While all of the memos distributed were identical, the partners' evaluation of the memo hinged on the perceived race of the memo author. Specifically, when the author was perceived to be African American, the evaluators found more of the embedded errors and rated the memo as lower quality compared to when the author was listed as Caucasian (Reeves, 2014). These findings suggest that unconscious confirmation bias affected the evaluators' perceptions of the memo; despite the intention to be unbiased, "we see more errors when we expect to see errors, and we see fewer errors when we do not expect to see errors" (Reeves, 2014, p. 6). This study echoes other work discussing how confirmation bias can shape employment outcomes (Curcio, Chomsky, & Kaufman, 2014).

In a late 2013 article, utilizing a computer-based study to assess the effects of a participant's workload, feedback (whether positive or negative), and the racial distance between group members, Triana, Porter, DeGrassi, and Bergman studied helping behaviors (Triana, Porter, DeGrassi, & Bergman, 2013). Results demonstrated a three-way interaction between amount of work, type of feedback and, racial distance. Specifically, individuals who were racially different from the group were less likely to receive help than their racially-similar counterparts when their workload was heavier and they received negative feedback. The authors made note of implicit bias as a potential cause for these results, as the participants were not consciously aware that they had treated team members differently.

### PERCEPTIONS OF LEADERSHIP

With the existing literature establishing the association between perceptions of leadership and Whites (Rosette, Leonardelli, & Phillips, 2008; Sy et al., 2010), Gündemir and colleagues examined the implicit association between leadership roles and ethnicity of Dutch university students. As hypothesized, participants held stronger implicit associations between organizational leadership and White-majority group members versus ethnic-minority individuals (Gündemir, Homan, deDreu, & vanVugt, 2014). In the interest of decreasing the strength of this association, another study in this article found that increasing dual levels of identification (i.e., recategorizing individuals into an overarching, common identity) can help suppress implicit pro-White leadership biases in the context of employment promotions. The authors suggest that the association of valued leadership traits with White individuals may provide a partial explanation for the challenges non-Whites have experienced when seeking to rise to leadership positions.

## Real World Implications:

**CARLOS, A 42-YEAR-OLD LATINO MAN** living in the mid-sized city of Redwall, is looking for a new job in advertising. In addition to advertising, Carlos is passionate about photography and running.

**ETHAN, A 44-YEAR-OLD WHITE MAN**, is also applying for advertising jobs in Redwall. Ethan is interested in graphic design and hiking. Wilmer Advertising, a mid-size advertising agency in town, hired both Carlos and Ethan as Junior Copywriters around the same time.

Upon completing their first year, Wilmer Advertising's manager conducted performance reviews for Carlos and Ethan. Both of them received "very competent" and "accelerated" on all of the review categories, qualifying them for the option of promotion to the position of Senior Copywriter. The manager considered both Carlos and Ethan for the promotion, but ultimately chose Ethan. The manager explained that their performance at work was essentially identical, but she felt Ethan would be a good leader. The promotion to Senior Copywriter came with a new office and an additional bonus of $1,000. Even though their manager gave both of them positive reviews and sought to treat all employees fairly, the pivotal factor behind why Ethan received the promotion over Carlos was the manager's implicit association of leadership with White individuals.

### EMPLOYMENT DISCRIMINATION LAWSUITS

Previous literature has examined the role of implicit bias in anti-discrimination lawsuits, leaving some scholars arguing that anti-discrimination laws (e.g., Title VII) are ill-equipped to address or affect implicitly biased behaviors (see, e.g., Bagenstos, 2006; Krieger, 1995), while others assert their faith in Title VII's ability to handle unconscious discrimination (see, e.g., M. Hart, 2005; Jolls, 2007; Lee, 2005).

Recognizing implicit bias as a notable contributor to various forms of contemporary employment discrimination, Tanya Kateri Hernandez suggests the inclusion of implicit bias research and the IAT as social framework evidence in employment discrimination cases. The author contends that using this framework may shift the judge's analysis from solely assessing discrimination cases with regard to explicit and ill-intended actions to also including an analysis of implicit bias brought about by ingrained stereotypes and biases (T. K. Hernandez, 2014).

### GENERAL

In addition to the structural barriers that can hinder the professional advancement of racial or ethnic minority women, Li posited that unconscious racism and sexism in the workplace also plays a role. By deconstructing the popular "model minority" discourse and uplifting the intersectionality of protected identities, Li argued that Asian American women experience the detrimental effects of both implicit racial and gender bias in the workplace (Li, 2014). Focusing on employment discrimination cases, Li emphasized that despite commitments to diversity, many businesses are unaware of the dynamics of implicit biases, how they operate within the workplace, and how they disadvantage Asian American women. To remedy this knowledge gap, Li suggested that "awareness of the stereotypes of Asian American women will help businesses acknowledge their implicit biases," which can influence businesses to ensure their practices do not detriment Asian American women (Li, 2014, p. 165).

Finally, recognizing how employees' implicit biases can cause workplace challenges, author Joyce Jarek devoted two chapters of her book, First Job: A Personal Career Guide for Graduates, to raising young professionals' awareness of the operation of unconscious bias (Jarek, 2014). Jarek used four fictional characters in real world examples to shed light on implicit bias in scenarios that individuals new to the workplace may encounter. ■

# 06 EDUCATION

*Colorism is a broad phenomenon where, for example, continuous variation in skin tone affects the actions of privileged authorities, who tend to be White. Colorism is intrinsically tied to racism in that white privilege is central to both.*

Hannon et al., 2013, p. 283



AS A CRITICAL OPPORTUNITY STRUCTURE THAT CAN HAVE A SIGNIFICANT effect on individuals' life trajectories, the presence of implicit racial bias in education contexts can be particularly troubling. Recognizing implicit bias as a multi-directional dynamic, this chapter discusses the ramifications of unconscious associations in both teachers and students, as well as in school discipline-related situations.

**IMPLICIT BIAS – TEACHERS**

Kumar, Karabenick, and Burgoon examined the implicit attitudes and explicit beliefs of teachers in culturally-diverse middle schools, and explained how both factors related the instructional practices the teachers endorsed. Two hundred forty one White teachers from schools with a growing Arab-immigrant population filled out questionnaires regarding their interactions with White and Arab American students in their classroom. Additionally, teachers participated in a version of the Implicit Association Test (IAT) that included pictures of Arab/Chaldean American, African American, and White adolescents. Teacher IAT performance demonstrated a significant preference for White over non-White adolescents overall (Kumar, Karabenick, & Burgoon, 2014). Despite evidence of a pervasive pro-White bias, the authors noted teachers were able to mitigate these effects though culturally responsive teaching methods such as promoting mutual respect and resolving inter-ethnic conflicts. By using these strategies, teachers were able to achieve a mastery-focused teaching approach (as opposed to the conventional performance-based method), even if they exhibited a pro-White bias on the IAT.

This finding provided a key insight on how implicit biases and beliefs can influence teachers' classroom practices.

Clark & Zygmunt evaluated teachers' reactions to their racial and skin tone bias as assessed by the IAT. The authors instructed teachers who were enrolled in their online graduate education diversity course to take both the race IAT and the skin tone IAT assessments and describe their initial reactions. Of the 308 students who participated in the study over a three year period, 96 percent reported receiving results that indicated a preference for European Americans and light skinned individuals (Clark & Zygmunt, 2014). Analyzing the teacher's reactions to their IAT results, Clark & Zygmunt typified teachers' reactions in one of five mutually exclusive categories: *disregard*—33 percent questioned the validity of the IAT; *disbelief*—26 percent of respondents contended that the results did not align to their declared beliefs; *acceptance*—22 percent reflected that given their background and experiences they may in fact harbor unconscious biases; *discomfort*—nine percent accepted their results and were uneasy with their bias; *distress*—10 percent of respondents expressed a level of elevated concern, shame, and desire to change their preferences (Clark & Zygmunt, 2014). These results are not uncommon as previous literature has uncovered similar trends in how

## Real World Implications:

Jackson-Thomas teachers experienced heavy workloads with increasingly high-demands in the classroom, making them more vulnerable to the influence of their implicit associations between minority youth and lower academic expectations. To illustrate, Mr. J., an English teacher, explicitly expressed the idea that all of his students could succeed; however, he unconsciously held lower expectations for his students of color.

Operating outside of his conscious awareness, this implicit bias affected his behavior when he neglected to give **JANAE, ONE OF HIS AFRICAN AMERICAN STUDENTS**, corrective feedback when making mistakes on her writing samples. Though Janae received a grade like the rest of her classmates, her misspellings and punctuation errors were never circled on her paper, a common practice that Mr. J. would use for other students. This teaching difference made the more challenging writing prompts given later in the semester more difficult for Janae than for her White counterparts, and did not allow her to reach her full potential in writing.

individuals react to and process their IAT results (see, e.g., R. A. Hernandez et al., 2013; Teal et al., 2012). As the authors note, these findings elevate the importance of ensuring the IAT is not utilized as a stand-alone experience, but rather that it is coupled with thorough and facilitated understanding of what the test is actually measuring, as well as the origins of these biases (Clark & Zygmunt, 2014).

Matias and colleagues performed a qualitative analysis of White teacher candidates' racial attitudes and experiences with racism. Although the subjects were involved in diversity training, the authors noted that "the White participants ultimately did not see their own contribution to the perpetuation of racism" (Matias, Viescaa, Garrison-Wadea, Tandona, & Galindoa, 2014, p. 297). The authors noted themes, such as lack of understanding, unintentional racism, and colorblindness, as key factors that maintained teachers' explicit and implicit pro-White biases.



**IMPLICIT BIAS—STUDENTS**

While much attention has been focused on how adults' implicit biases can affect education settings, other research considers the associations students hold.

Cvencek et al. studied the developmental trend of explicit and implicit racial bias in elementary and middle school students. Fourth to eighth grade students were given explicit and implicit measures for awareness and personal endorsement for the stereotype that Asians are better at math than Whites are. Both elementary and middle school students reported explicit awareness of the stereotype, and middle school students reported personal endorsement of the bias at a significant level (Cvencek, Nasir, O'Connor, Wischnia, & Meltzoff, 2014). Additionally, the students participated in an Implicit Association Test (IAT) to test the strength of the association between "Asian" and "Math." This implicit measures of the "Asian=Math" association correlated positively with explicit measures of stereotype awareness in both age groups (Cvencek et al., 2014). Moreover, students in higher grades exhibited a larger degree of the "Asian=Math" association on the IAT than those in elementary school. Results implicated that students' stereotype awareness and likelihood of internalization may increase with age (Cvencek et al., 2014). These findings connect with previous studies that have documented the development of implicit biases in children and adolescents (Baron & Banaji, 2006; Rutland, Cameron, Milne, & McGeorge, 2005; Telzer, Humphreys, Shapiro, & Tottenham, 2013).

**Results demonstrated that both majority and minority students showed a bias toward ingroup favoritism**

Salès-Wuillermin and colleagues measured implicit racial biases of 360 French elementary students in grades 1–4. The sample was split into two groups, which were composed of majority (European heritage) and minority (African heritage) students, respectively. Students were presented photographs depicting White and

Black characters performing positive or negative actions. Researchers used the Linguistic Intergroup Bias measure to assess participants' implicit preferences for ingroup and outgroup characters. Results demonstrated that both majority and minority students showed a bias toward ingroup favoritism (Salès-Wuillemin et al., 2014). However, neither majority nor minority students exhibited outgroup derogation. The authors suggest students' young age and the high population of non-European students as a reason why negative associations with outgroup members were not exhibited, especially since the cognitive capabilities to evaluate and categorize outgroup members based on skin tone may not be present until late childhood/early adolescence.

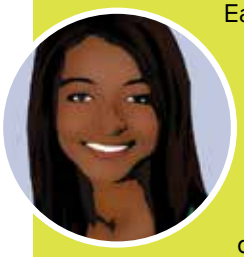
#### SCHOOL DISCIPLINE

In addition to the Kirwan Institute's own work at the intersection of race, implicit bias, and school discipline (see the final chapter of this document for more information), other researchers have examined these dynamics.

In a supplementary paper for The Discipline Disparities Research-to-Practice Collaborative, Johanna Wald argued a strong case for implicit bias as a determinant for the racial disparities evident in school disciplinary data (Wald, 2014). She reviewed the literature on race-dependent differences in schools' punishment practices and how implicit bias can lead to this differential treatment. Wald concluded with practical steps to reduce one's biases and calls on the education system to develop more comprehensive solutions for decreasing the discipline gap.

Examining the role of implicit racial bias in school discipline disparities among Black and White students, very few researchers have attempted to explore the impact of skin tone—the notion of colorism—on interracial school discipline rates among African American students. Hannon, DeFina, and Bruch assessed this dynamic using data from the National Longitudinal Survey on Youth (NLSY), which has included a measure for interviewer-assessed skin tone based on the Massey and Martin Skin Color Scale since 2010 (Hannon, DeFina, & Bruch, 2013). Using interview data from a sample of more than 1,100 African American youth, the authors employed a logistic regression analysis to determine whether correlations exist between suspension rates and skin tone. They controlled for several factors including academic achievement as gauged by test scores, the frequency with which the student had engaged in delinquent activities, the family's socioeconomic status, the student's age, and the urbanicity of the adolescent's residence coded as a dichotomized variable. The regression analysis revealed that African American females with the darkest skin tone were about 3.4 times more likely than African American females with the lightest skin tone to be suspended for similar, subjective, and non-violent offenses; for African American males, the suspension rates increased by a factor of 2.5 for those with the darkest skin tone relative to their lighter complexion counterparts (Hannon et al., 2013). This study reveals the layered and nuanced dynamics of implicit racial bias that go far beyond the traditional and simplistic portrayal of White-on-Black racial dis-

## Real World Implications:



Early in the evening of November 16th, **JANAE**'s high school was tagged with graffiti. The administrators arrived the next morning and were shocked to find a large "P" in elaborate bubble letters sprayed on an austere wall near the front entrance to the building. The administrators associated this act with gang activity. In response, the principal, Mrs. Jennifer Jones called in all of the high school students for questioning in front of the police. Three rounds of interviews were conducted. Those believed to be innocent were released back to class; those who the administration deemed suspicious remained for further questioning.

**A WHITE STUDENT, BRITTANY**, came in for questioning and stated she was home watching TV with her family all night. The officer and principal believed her statement and dismissed her after the first round of questioning.

Janae came in for questioning and stated she was at home cooking dinner for her family during the time when the vandalism occurred. Janae was subsequently selected for a second and third questioning to determine whether she was guilty. Due to her previous exposure to negative comments about the youth in the primarily African American neighborhood near the school, Principal Jones had an implicit association between darker skin tone and criminal behavior. Only five student were retained for final questioning, all of whom were African American. Thus, although no criminal charges could be brought, the principal concluded that each of the five students would be suspended for three days to deter any further vandalism. Janae had never been suspended before and was disheartened that she would receive Fs on all the assignments she was supposed to turn in during the suspension period. She knew that this experience would greatly decrease her likelihood of getting into college. Janae returned to class the following week. Though it felt good to get back to her normal routine, Janae was still slightly sad and distressed about having so much extra work to make up. Because her teachers' implicit biases are related to their perceptions of anger in the emotionality of Black students, Janae's homeroom teachers believed that she was exhibiting aggression; therefore, Janae received verbal reprimands to "change her attitude" rather than being referred to see a school counselor for her emotional response to the circumstances.

crimination: "Colorism is a broad phenomenon where, for example, continuous variation in skin tone affects the actions of privileged authorities, who tend to be White. Colorism is intrinsically tied to racism in that white privilege is central to both" (Hannon et al., 2013, p. 283).

**ACADEMIA**

In a review on the relevance of implicit bias in academia, Morrow-Jones and Box-Steffensmeier specifically outlined how implicit bias can invade the recruitment and selection process of students, staff, and faculty (H. M. Jones & Box-Steffensmeier, 2014). The authors provided an overview of the implicit bias literature, giving special attention to studies that exhibited differences in resume evaluations and quality of letters of recommendation due to gender bias, but also acknowledging that implicit bias may be activated by race, age, sexual orientation, and other personal characteristics. Morrow-Jones and Box-Steffensmeier concluded by implicating implicit bias as a reason why women are underrepresented in the Political Methodology field and provided resources for examples to change policy and practice.

**GENERAL**

Finally, a November 2014 report from the Perception Institute gathered a range of research on implicit bias, racial anxiety, and stereotype threat and discussed these phenomena in the context of both education and health care (Godsil, Tropp, Goff, & powell, 2014). ■

# 07 HOUSING

WHILE THE 2014 SCHOLARLY LITERATURE ON IMPLICIT RACIAL BIAS WAS quite scarce, The Furman Center blog, *The Dream Revisited*, furthered the dialogue by hosting an academic discussion on implicit bias and residential segregation that featured legal scholar Jerry Kang. In his argument, Kang asserted that understanding how implicit bias affects today's housing market can cultivate as sense of "moral urgency" in addressing racial segregation in the housing domain (J. Kang, 2014). Kang demonstrated that a modern understanding of residential segregation assumes that individuals with resources make housing decisions based on rational judgment of neighborhood factors rather than intentional racial prejudice. As such, Kang posits that individuals typically acknowledge the perpetuation of racial segregation as an unfortunate consequence of choosing a "good" neighborhood, rather than acknowledging race as pivotal decision-making factor. Due to implicit bias, our perceptions of what makes a good neighborhood are already affected by race-space associations. In fact, implicit bias can affect housing purchases beyond one's rational judgment of factors such as safety, pricing, and school options.

Three discussants responded to Kang's essay, sharing their opinion on how implicit bias may or may not add to promoting racial justice in the housing domain. First, Richard Ford argued that the constructs of implicit bias and concealed prejudice are nearly impossible to distinguish from one another (Ford, 2014). He therefore urged readers to focus in institution/structural elements of segregation alone. Second, Robert Smith's response synthesizes both Kang and Ford's arguments. Though Smith acknowledged that implicit racial bias does affect residential segregation, he believes that it is not enough of an impact to warrant independent consideration for understanding the racialization of the American housing market (R. Smith, 2014). Smith reasoned that even if individuals do respond according to their own implicit biases, that this alone would do little to decrease neighborhood segregation. Finally, Cheryl Staats considered how diverse neighborhoods can play a role in reducing implicit bias. Noting that implicit biases can contribute to residential segregation, she highlighted the irony that "these implicit biases can contribute to their own perpetuation by limiting the debiasing opportunities that intergroup contact in neighborhoods would create" (Staats, 2014). Thus, Staats argued the importance of intentionally seeking opportunities for intergroup contact, whether in neighborhoods or other venues. ■

# 08 DEBIASING

*"The key isn't to feel guilty about our [implicit] biases—guilt tends toward inaction. It's to become consciously aware of them, minimize them to the greatest extent possible, and constantly check in with ourselves to ensure we are acting based on a rational assessment of the situation rather than on stereotypes and prejudice."*

Neill Franklin, in The New York Times Room for Debate series, 2014



AS IMPLICIT BIAS CONTINUES TO GAIN PUBLIC ATTENTION, THE discussions that naturally follow often turn to the notion of debiasing: What can we do about our unconscious associations, particularly when they do not align with our explicit beliefs? As noted in earlier chapters, implicit bias-related trainings have gained tremendous popularity as a means for addressing this concern. The 2014 research shared in this chapter touches on trainings as well as other strategies for "reprogramming" existing cognitive associations.

**TRAINING**

In a novel approach to reducing implicit bias toward Black and homeless individuals, Kang and colleagues looked at loving-kindness meditation, a Buddhist tradition defined as having a focus of developing warm and friendly feelings toward others (Y. Kang et al., 2014). (For more information on loving-kindness meditation, see Hutcherson, Seppala, & Gross, 2008). The study consisted of 107 non-Black, non-homeless individuals who either participated in six weekly loving-kindness meditation trainings (condition 1), a discussion on loving-kindness (condition 2), or were on the waitlist (control). Implicit attitudes toward Black and homeless individuals were measured before and after this training. Results showed that the discussion condition did not decrease implicit outgroup bias; however, participation in loving-kindness meditation significantly decreased participants' implicit outgroup bias toward Blacks and homeless people (Y. Kang et al., 2014).

Forthcoming work by Lueke and Gibson support this general conclusion, finding that mindfulness meditation was associated with a decrease in participants' implicit race and age bias (Lueke & Gibson, forthcoming).

In light of previous research in which other-race training reduced implicit racial bias (Lebrecht, Pierce, Tarr, & Tanaka, 2009), individuation training (i.e., training to increase one's ability to distinguish different objects from one another) with other-race faces again proved to be an effective strategy for reducing implicit racial bias, this time among preschoolers in a study conducted by Wen Xiao and colleagues. Individuation's use as a training mechanism for reducing bias is based on the underlying theoretical belief that children's perceptual representations of faces can be influenced by social information (Xiao et al., 2014). Using Chinese children ages four to six, the authors constructed two parallel experiments in which participants were asked to categorize 40 racially ambiguous adult male faces morphed between prototypical Chinese and African faces as either African or Chinese. The images differed only with regard to their facial expression depicting them as either happy or angry. The children then underwent a training in which they were asked to differentiate among five images of true African (Experiment 1) or true Chinese (Experiment 2) men between 20 and 35 years of age. Lastly, the children completed a categorization posttest exercise identical to the first one to assess the impact of the training (Xiao et al., 2014). The study results detailed two important findings: 1) The pretest revealed statistically significant ingroup preference among both groups, as the children were more likely to categorize the angry face as outgroup and the happy face as ingroup despite them being otherwise identical; 2) the individuation training reduced the bias for the participants who viewed outgroup faces; however, it had no statistically significant effect on implicit biases of participants who saw ingroup faces (Xiao et al., 2014). This study, like others, suggests that implicit racial bias is a robust phenomenon that surfaces even in very young children (see also Baron & Banaji, 2006; Newheiser & Olson, 2012; Rutland et al., 2005). It also provides a promising debiasing mechanism effective even on young children; still, the authors contend the need for longitudinal studies to assess the sustainable impact of this training given the magnitude of stereotypes the children will be exposed to later in life (Xiao et al., 2014).

**This study, like others, suggests that implicit racial bias is a robust phenomenon that surfaces even in very young children**

Finally, while not directly focusing on race or ethnicity, an article by Jackson, Hilliard, and Schneider merits mention as the first study to measure implicit associations following the conclusion of diversity trainings. Notably, this study is also one of very few to simultaneously employ multiple measures of implicit bias. The research team considered how gender diversity trainings for faculty in academic STEM (science, technology, engineering, and math) fields affected participants'

implicit and explicit biases. Centering on the idea that diversity training that would alter implicit associations could reduce discrimination against women in STEM, Jackson et al. utilized a personalized implicit measure that examined participants' associations between women and science/engineering, as well as explicit measures. As a result of this training, the male participants' implicit associations related to women in STEM became more positive; however, there was no change in their (already positive) explicit attitudes (Jackson, Hilliard, & Schneider, 2014). Women's pre-existing positive implicit associations were unaffected by the training. While the outcomes of many diversity trainings have been a bit unclear (see, e.g., Rynes & Rosen, 1995), this work led the authors to conclude that male STEM faculty may benefit from implicit bias training.

#### INTERGROUP CONTACT

With a focus on children, Marle and Sokol summarized data from the Readers 2 Leaders (R2L) program, a student mentoring training with an emphasis on interracial exposure and cultural learning. The study consisted of 115 predominately-White elementary students of middle socioeconomic status who were mentored by 24 Black, generally lower socioeconomic status middle school students. During the program, middle school students mentored the elementary students by reading books featuring prominent African American figures. Researchers assessed the data from IATs administered both before and after the intervention to compare implicit levels of racial bias. Results showed that while students exhibited an implicit pro-White bias before participating in R2L, after the program, their pro-White bias disappeared (Marle & Sokol, 2014). This research supports the notion of intergroup contact as a debiasing mechanism (Pettigrew, 1997; Pettigrew & Tropp, 2006), particularly when involving individuals of a similar status engaging in a cooperative activity (Allport, 1954).

Looking at intergroup contact from a much more literal perspective, Seger et al. examined interpersonal touch as a way decrease racial bias. A total of 233 participants participated in two studies investigating this idea. Participants were randomly assigned to a condition where they were touched on the shoulder by an African American experimenter, Asian experimenter, or were not touched during password entering for a computer- based questionnaire. Explicit and implicit attitudes were measured via a questionnaire and the Evaluative Priming Task, respectively. Results demonstrated that interpersonal touch decreased implicit bias toward the toucher's racial group while explicit bias was unaffected (Seger, Smith, Percy, & Conrey, 2014).

#### TAKING THE PERSPECTIVE OF OTHERS

In a study on ethnic bias, American student participants played a first person videogame simulating the Palestine-Israeli conflict called PeaceMaker (Alhabash & Wise, 2014). During the game, participants were either assigned to the role as the Palestinian President or the Israeli Prime Minister, and were given explicit and implicit assessments of stereotypes for Israelis and Palestinians before and

after playing the game. Researchers measured implicit stereotypes with the Affective Misattribution Procedure (AMP) (for more on the AMP, see Payne, Cheng, Govorun, & Stewart, 2005). Results showed that playing PeaceMaker led to less explicit stereotypes based on the players' corresponding role (e.g., participants who played as the Palestinian prime minister showed less explicit stereotypes for Palestinians). Though implicit attitudes did not change at a significant level, they did moderate effects of explicit stereotypes; those who showed higher implicit stereotypes of Palestinians exhibited a larger decrease in explicit stereotypes of Palestinians after gameplay. The authors posit two explanations for the results: 1) the most biased individuals had the most room to grow, therefore they improved most as a result of the intervention; and 2) participants with the most bias exerted more cognitive control to appear egalitarian and therefore displayed more positive ratings in the post-test (Alhabash & Wise, 2014).

Todd and Galinsky summarized the emerging experimental literature on perspective-taking, "the active consideration of other's mental states and subjective experiences," as a means to combat intergroup bias (Todd & Galinsky, 2014, p. 374). The authors featured a section on perspective-taking to decrease implicit outgroup racial bias and outlined several experiments in the past decade that have successfully reduced implicit bias with this method.



**EMOTIONAL EXPRESSION**

Two 2014 studies considered the role of emotional expression in the moderation of implicit biases. First, in a study addressing the interaction between evaluations of emotional expression, race and age, results suggested that implicit racial biases may not be activated if simultaneously in the presence of salient emotional expressions (B. M. Craig, Lipp, & Mallan, 2014). Second, building on the well-documented phenomenon of shooter bias which refers to the strong and pervasive implicit association that exists between Blackness and weapons (see, e.g., Correll et al., 2002; Sadler et al., 2012), Kubota and Ito sought to explore the extent to which emotional expressions can signal intentions and moderate this bias. Specifically, they wanted to test their hypothesis that facial expressions signaling positivity or approachability (smiling) can decrease bias. To test this, they conducted two separate studies in which participants utilized the weapons identification task (see Payne, 2001) to assess their speed and accuracy in responding to Black and White primes with angry, neutral, or happy facial expressions. The two studies differed in only three ways. In study 1, participants experienced primes of all three expressions in randomized order; whereas, study two participants experienced only one of the expressions to assess the role of context in perceptions. Secondly, the response time constraint of 700-ms in the first study was removed in study two. Finally, because primes of only one expression were seen in study two, participants completed fewer total trials—120 instead of 360. Results revealed that in both studies, angry primes significantly increased the degree to which Black primes facilitated responses to guns relative to White

primes (Kubota & Ito, 2014). Furthermore, happy primes moderated this difference to be statistically insignificant. Alternatively, in study one, there was no difference in response times for Black and White neutral primes; whereas in study two trends followed previous studies which demonstrate that when primed with neutral facial expressions, people more readily and often times inaccurately associate Black Americans with guns than White Americans (Kubota & Ito, 2014). This suggests that when viewing neutral facial expressions context matters much more than happy or angry faces.

#### COUNTERSTEREOTYPICAL EXEMPLARS

Previous literature on the success of counterstereotypical exemplars and debiasing agents in changing implicit attitudes is quite mixed, with some studies finding that the presence of a high-status counter-stereotypic exemplar such as President Obama may be inadequate to shift implicit racial attitudes (Dasgupta & Greenwald, 2001; Joy-Gaba & Nosek, 2010; J. Kang & Banaji, 2006; Lybarger & Monteith, 2011; Schmidt & Nosek, 2010). To study this phenomenon, Critcher and Risen measured participants' perception of racism after exposing them to pictures of African Americans who were very successful (e.g., President Obama and Oprah Winfrey) (Critcher & Risen, 2014). The authors included eight studies with a focus on the automatic inferences that participants made about race after encountering the successful African American exemplars. The results showed that participants who were primed with non-stereotypical (i.e., successful) exemplars of African Americans were more likely to deny racism or believe that Blacks were disadvantaged because of race. These findings directly link exposure to examples of African American success to automatic attitude change, even if their explicit ratings did not correspond. This study furthers the debate on whether or not countersterotypical exemplars should be used as a debiasing method, as their effect on attitudes has been rather inconsistent overall. ■

# 09 OTHER BROAD CONTRIBUTIONS

*"We really don't have to believe the associations are true to have them come to mind. In fact, if we fully understood the influences on—and causes of—our decisions, we would probably reject them."*

Dr. B. Keith Payne, August 13, 2014 at UNC-Chapel Hill

Beyond the specific domains for which the *State of the Science: Implicit Bias Review* has examined implicit bias in previous editions, other literature contributes to our understanding and the growth of this research field as a whole. While the span of this material is tremendously broad, this chapter gathers some of these new contributions, particularly as they speak to our focus on race and ethnicity.

**INGROUPS AND OUTGROUPS**

Research from 2014 delved into the concept of ingroup bias; results regarding whether and how ingroup bias functions were mixed. For example, one study in Axt, Ebersole, and Nosek's work considered implicit social hierarchies, finding that participants of all racial and ethnic groups implicitly regarded their own group most positively, with all remaining groups hierarchically ranking as Whites > Asians > Blacks > Hispanics (Axt, Ebersole, & Nosek, 2014). Although the data set was not a representative sample, these results suggest that ingroup favoritism is one component of implicit evaluative hierarchies.

Conversely, other work added to the existing literature on implicit anti-ingroup biases. Using a small sample of women, March and Graham studied implicit biases toward Hispanics among both Hispanic and non-Hispanic Caucasian participants. Whites and Hispanics both displayed a relative negative implicit bias towards Hispanics on implicit measures (i.e., a startle paradigm and the IAT), with the latter group thereby adding to existing literature that documents the presence of anti-ingroup bias among some minorities (see, e.g., Ashburn-Nardo, Knowles, & Monteith, 2003; Nosek, Banaji, & Greenwald, 2002). The authors recognized that

the startle task and IAT were not correlated in their findings, thus suggesting that the two measures may be tapping into different aspects of implicit bias (March & Graham, 2014). March and Graham also emphasized the importance of studying intragroup biases when seeking to fully understand racial and ethnic biases.

A 2014 contribution by Craig and Richeson used experiments to investigate how information regarding future U.S. demographic trends affected White participants' racial attitudes on both explicit and implicit levels. Looking at explicit attitudes, the researchers found that when they made projected demographic shifts reflecting the growth of minority populations salient, White participants expressed more explicit racial bias compared to those who had been exposed to current population statistics (M. A. Craig & Richeson, 2014). Turning to implicit racial associations, Craig and Richeson revealed that making the changing U.S. racial population salient to White participants yielded greater pro-White/anti-racial minority implicit associations. Accounting for other experiments in this article, taken broadly these experiments "revealed that White Americans for whom the U.S. racial demographic shift was made salient preferred interactions/settings with their own racial group over minority racial groups, expressed more automatic pro-White/anti-minority bias, and expressed more negative attitudes towards Latinos, Blacks, and Asian Americans" (M. A. Craig & Richeson, 2014, p. 758). Acknowledging that these findings seem to suggest less harmonious inter-

## Real World Implications:

**DARA IS A 1ST GENERATION COLLEGE STUDENT FROM AN ASIAN FAMILY**. Dara just began her freshman career at Middleboro College, a small liberal arts college this semester. To foster community support and student-directed leadership, the university places incoming students in a cohort, led by a sophomore. Dara's cohort consisted of 14 other biology majors.

**VANESSA IS A 2ND YEAR STUDENT AT MIDDLEBORO COLLEGE**. She is the leader for the incoming freshman cohort of biology majors. She has lived in a rural setting her entire life and has had little contact with students of different races, ethnicities, and cultures. Vanessa's job is to advocate for community building within the incoming class, regardless of students' culture, values, or interests.

group relations rather than increased tolerance, the authors conclude that their work "offers compelling evidence that the so-called 'majority-minority' U.S. population is construed by White Americans as a threat to their group's position in society and increases their expression of racial bias on both automatically activated and self-report attitude measures" (M. A. Craig & Richeson, 2014, p. 758).

Greenwald and Pettigrew investigated ingroup and outgroup interaction as determinants for racial discrimination, with the major finding that ingroup favoritism is a more significant influence on discrimination in the U.S. than outgroup hostility (Greenwald & Pettigrew, 2014). The authors specifically addressed the methodological limitations of using implicit measures to assess discrimination. For instance, many implicit bias measures show evaluative discrepancies between two groups, but do not typically locate group evaluations in terms of a neutral point where no bias (either positive or negative) exists. The authors discussed the addition of unambiguous neutral points to existing bias methods in order to truly understand the influence of ingroup favoritism on discrimination.

Dickter, Gagnon, Gyurovski, and Brewington used two experiments to measure whether individuals' contact with racial outgroup members affects the amount of initial attention they direct toward members of ingroup vs outgroup. In their first study, 71 White college students provided the initials and race of 20 close friends as a measure of contact with outgroup members. Following the questionnaires, experimenters used a dot-probe task as an implicit measure of preferential attention (for more information on this research design, see Trawalter, Todd, Baird, & Richeson, 2008). The results demonstrated that attentional allocation of Black and White faces was moderated by the subject's degree of meaningful contact with Black individuals (Dickter, Gagnon, Gyurovski, & Brewington, in press). Additionally, the second study elaborated on these results by using Asian faces on the dot-probe tasks. The first study's results were replicated, showing that White attentional allocation to Asian faces was also moderated by close and meaningful contact with Asian individuals. With findings broadly consistent with

Given her few experiences with intergroup contact, over the course of her lifetime **VANESSA** began to form an implicit racial bias that automatically associated her own group (Whites) with positive feelings like comfort and friendliness. Moreover, she began to harbor an association that connected members of her outgroup (such as Hispanics or Asians) with negative feelings like nervousness and insecurity.

Due to **VANESSA**'s implicit biases, she seldom included **DARA** when inviting members of the cohort out for fun activities. For example, Vanessa dropped by the all freshmen dorm rooms to invite them to a Fall Social with the rest of student body. When Dara's door was closed, Vanessa just walked by without knocking, even though she knocked on other doors to see if those students were in. Furthermore, she neglected to follow up with Dara to see how she was doing in her classes.

Dara accurately perceived her differential treatment in the cohort. She, in turn, began to feel rejected and isolated when she was left out of group activities like the Fall Social or going out to dinner with the rest of her floor. Additionally, her grades began to drop because she felt she wasn't welcome in the weekly study group. Dara began to wonder if college was really the right place for her.

the contact hypothesis (see Allport, 1954), Dickter et al.'s work suggests that interactions with outgroup individuals is associated with differences in how our minds implicitly process these individuals.

**ASSESSMENTS / MEASUREMENTS**

Mele, Federici, and Dennis used two studies to examine the relationship between eye movements and implicit associations (Mele, Federici, & Dennis, 2014). Study 1 included 30 White, adult participants who each took two IATs. When taking the first IAT, participant's eye fixation was measured, while for the second IAT only their association responses were measured. Results indicated that the majority of subjects had a pro-White bias. Moreover, participants generally fixated more on race-word pairs that included outgroup members (e.g. Black/good and Black/bad pairs) and also on pairs that were incongruent with their associations (e.g. Black/good and White/bad pairs). With a second study yielding similar results, the authors noted that these findings may bolster the idea of using eye-tracking methodologies in assessments of implicit attitudes.

In an effort to examine the experimental validity of the Brief IAT (BIAT), Yang et al. conducted two studies to measure its effectiveness in identifying newly formed attitudes and responding to changes within present attitudes (J. Yang, Shi, Luo, Shi, & Cai, 2014). In Study 1, 147 Chinese college students were randomly assigned to one of three groups, two experimental and a control. The experimental groups were categorized into either the red or the green group, and once assigned a group, participants memorized their group member names. Results showed the BIAT was accurate in predicting implicit favoritism for ingroup names

opposed to outgroup names. A second study used 109 Chinese college students who completed a computer-based task assessing implicit attitudes toward China and Britain. The experimental group was primed with a news story of a British-based company taking over a China-based company in order to elicit a threat effect on participants' attitudes. Results demonstrated that the BIAT predicted the ingroup bias for control and experimental groups and also was sensitive to increased ingroup favoritism for the experimental group. Moreover, not only was the BIAT responsive to changes in ingroup attitudes, but it further predicted participants' intention to boycott the outgroup as assessed by a questionnaire.

Adding to previous work on the Associative-Propositional Evaluation (APE) model (see Gawronski & Bodenhausen, 2006), in the current article, researchers Gawronski and Bodenhausen provided a comprehensive overview of the APE model of implicit and explicit evaluation (Gawronski & Bodenhausen, 2014). The assumptions that 1) explicit evaluations are seen as the outcome of propositional processes; and 2) implicit evaluations are the manifestation of associative processes, are fundamental tenants of the APE model. Moreover, the APE model includes specific outcomes for mutual interactions between the two processes, and the article includes an explanation for exactly how these evaluative judgments are contingent on affective responses as well as previously held beliefs. Overall, the work provides exemplary insight on how implicit biases are susceptible to multiple influences resulting from response to stimuli, executive control, and contextual factors.

Unconscious bias can be measured in many ways as evidenced by researchers Meadors & Murray in their assessment of nonverbal bias through body language responses to stereotypes. Operating under the belief that nonverbal communication more accurately reflects the true feelings and intent of the communicator, the authors investigated implicit racial bias by analyzing nonverbal behaviors of individuals shown video of a criminal suspect whose race was manipulated to be Black or White (Meadors & Murray, 2014). Participants completed two videotaped interviews in which they provided details and descriptions of two phenomena: a newspaper article about flowers blooming in Death Valley (the control condition), and a video clip from the documentary television series *COPS* describing a fatal shoot-out with a suspect manipulated to be either Black or White (the experimental condition). The interviews were then viewed—without the audio—and interpreted by 14 raters and four decoders. The raters operationalized the participant's behavior as anxious, caring, uncertain, friendly, hostile, and positive along a seven point Likert scale (ranging from -3 as "not at all characteristic" to +3 as "very characteristic"). The decoders assessed participant's use of illustrators (nods, headshakes, etc.), emotional expressions (facial displays of emotions), and manipulators (behaviors in which part of the face or body manipulates some other part of the face or body; e.g. pull back hair) while describing each scenario (Meadors & Murray, 2014). The analysis revealed that the White

condition (*COPS* scene with a White suspect) elicited more posture closing and repetitive movements, whereas the Black condition (COPS scene with a Black suspect) elicited fewer smiles. The authors contend that the increased closed posture when describing the White criminal suspect may be a result of participants' discomfort with the counter-stereotypical scene they viewed (Meadors & Murray, 2014). Participants were also rated as more uncertain in the White condition than the Black condition; however, the results demonstrated gender differences, as women in the White condition appeared more anxious than women in the Black condition, whereas men in the White condition appear less anxious than men in the Black condition (Meadors & Murray, 2014). Previous research suggests that while people often can monitor their verbal behaviors pretty well, their nonverbal behaviors (in this case illustrators, emotional expressions, and manipulators) may not be as well monitored or controlled, thereby serving as "leakages" that reveal their true attitudes (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Fazio, Jackson, Dunton, & Williams, 1995; Olson & Fazio, 2007; Stone & Moskowitz, 2011).

**SKIN TONE**

Adding a different dimension to implicit bias research on race, a few researchers explored the effect of skin tone.

In a study focusing on "skin tone memory bias," Ben-Zeev and colleagues subliminally primed participants with either a Black stereotypic word (e.g., athletic) or a counterstereotypic term (e.g., educated) before showing them a photo of a Black male that they would later have to identify from a collection of identical males with a varying range of skin tones (the target photo and six lures). Findings indicated that participants recalled the target photo to be of a lighter skin tone when primed with counterstereotypical terms. In a nod towards implicit associations, the authors acknowledge that the results "are consistent with the mind's striving for cognitive consistency" (Ben-Zeev, Dennehy, Goodrich, Kolarik, & Geisler, 2014, p. 7).

In a novel experiment, Krosch & Amodio investigated the relationship between economic scarcity and perceptions of race through four mini-studies. The intent of these studies was to add to the academic discourse by providing an alternative explanation—beyond structural inequities—for the expansion of racial disparities during economic recessions (Krosch & Amodio, 2014). The authors hypothesized that economic resource scarcity may cause decision-makers to perceive African Americans as "Blacker" and that this perception elicits discrimination with regards to the allocation of resources. Most notable are mini-studies two and four, which assessed the relationship between primed notions of scarcity, perceptions of race, and discriminatory allocation of funds on an implicit level. In study two, participants were primed with words relating to economic scarcity, economic-neutrality, or unrelated negative connotations. The participants then

completed a categorization exercise in which they identified mixed-raced individuals as Black or White. The results revealed that scarcity-primed individuals perceived mixed-race faces as significantly "Blacker" than individuals implicitly primed with neutral or unrelated negative words (Krosch & Amodio, 2014). Similarly, study four asked participants divide $15 between two mixed-raced people with different skin tones and varying levels of stereotypically Black features. In alignment with the previous study, ANOVA tests revealed that individuals allocated significantly less money to the perceptually Black face when faced with a scarcity condition in which they had to make a choice (Krosch & Amodio, 2014).

While implicit bias research has entered the political arena by focusing on voting behavior (see, e.g., Glaser & Finn, 2013; Greenwald, Smith, Sriram, Bar-Anan, & Nosek, 2009; Payne et al., 2010), some 2014 research considered the role of skin tone perceptions for a specific political figure, President Obama. Kemmmelmeier and Chaves performed two studies to examine multiple sources of variance in perception of Barack Obama's skin tone (Kemmelmeier & Chavez, 2014). Skin tone perception was conceptualized as a form of implicit bias, meaning that people's opinions about Obama were related to their perceptions of his skin tone, without being consciously aware of this relationship. To understand this relationship, the researchers included over 450 total participants and collected data at multiple time samples (before and after 2008 and 2012 elections). Participants were asked to choose the "Real Barack Obama" from a matrix of photographs that varied only on the dimension of skin tone. The results demonstrated that differences in perceptions of Obama's skin tone that were dependent on political affiliation as well as level racial prejudice (assessed by questionnaire). However, partisan skin tone biases were only present during election periods whereas prejudice-based skin tone biases persisted regardless of political climate.

Furthering the conversation related to skin tone, work by Hannon utilized data from 459 interviewers on the 2012 American National Election Study to examine the relationship between interviewers' perceptions of skin tone and intelligence of Hispanic respondents (Hannon, 2014). Results from a logistic regression revealed that interviewer perceptions of Hispanic respondent intelligence varied as a function of skin color. Notably, lighter skinned individuals were five times more likely to be rated as having very high intelligence relative to their darker skinned counterparts, and this skin tone effect operated independent of education level, vocabulary test score, whether the respondent self-identified as White, and how the interviewer self-identified in terms of race and ethnicity (Hannon, 2014). The author declare that in his view, "The results of the present analysis suggest that a full accounting of the degree to which White privilege affects social outcomes in the United States needs to address both variation within and between racial and ethnic groups" (Hannon, 2014, p. 279).

## PERCEPTION AND EMOTION

Knowing that even one's emotional state can influence the activation and nature of implicit biases (Dasgupta, DeSteno, Williams, & Hunsinger, 2009), further research explored how emotions and implicit biases can affect perceptions.

Wang and colleagues provided an analysis of the relationship between implicit bias and perception of out-group face emotionality (Wang et al., 2014). The study recruited 40 Chinese undergraduate students to participate in an IAT that included Chinese and White faces. Additionally, they were asked to rate the emotional intensity of pictures of Chinese and White faces. The faces they viewed each expressed one of the following emotions: happiness, anger, sadness, or fear. Results showed that the participants showed a pro-Chinese bias on the IAT, on average. Pro-Chinese IAT scores correlated positively with higher ratings of emotionality for White faces showing anger, fear, and sadness, but not happiness. The authors suggest that the finding that implicit racial attitudes can affect perceptions of outgroup individuals' emotions may have implications for intergroup relations, as "perceiving and judging emotional expressions from an out-group member is a critical part during intergroup interactions and may have significant implication for both basic perceptual processes and downstream overt behavior" (Wang et al., 2014, p. 5).

Bijlstra, Holland, Dotsch, Hugenberg, and Wigboldus examined how implicit associations between race and emotional expression influence one's ability to recognize the emotions of outgroup members (Bijlstra, Holland, Dotsch, Hugenberg, & Wigboldus, 2014). The authors completed two studies that assess emotional recognition for faces that were both dynamic and static, respectively. In the first study, 103 university students completed a morph movie task where White and Moroccan faces changed between angry and sad expressions (for more information on morph movies, see Niedenthal, Brauer, Halberstadt, & Innes-Ker, 2001). Following the morph movie, participants took an IAT that assessed emotional associations (eIAT). The eIAT assessed associations between ethnicity (Dutch vs. Moroccan) and emotion (angry vs. sad). Results showed that participants implicitly associated Moroccan with angry more often than Dutch with angry and Dutch with sad more often than Moroccan with sad, overall. These biases, in turn, affected recognition of emotional expression in Moroccan and Dutch faces; for example, those with stronger associations for Moroccan and "angry" were more likely to rate Moroccan faces as having an angry expression. In the second study, 74 students participated in an emotion categorization task (originally from Bijlstra, Holland, & Wigboldus, 2010) and subsequently completed an eIAT and an IAT. Results replicated study 1 and showed emotional associations predicted emotion recognizing for White and Black faces. Conversely, the IAT effect inversely predicted the emotional recognition effect (i.e., those with more bias exhibited more difficulty categorizing the expressions, in general). The authors propose that people with higher degrees of bias may perceive more homogeneity in faces

as a hypothesis for why these subjects experienced difficulty in discriminating types of emotional expression.

**COGNITIVE NEUROSCIENCE**

Hilgard, Bartholow, Dickter, and Blanton sought to shed light on the impact of cognitive control processes (particularly with task-switching) during IAT participation, as these processes may obscure the automatic, race-based associations they aim to measure (i.e. congruence effects) (Hilgard, Bartholow, Dickter, & Blanton, in press). The current study included data from 19 participants who took the IAT measure while an EEG recorded "event related potentials" (ERPs). Data analysis revealed a number of interesting findings pertaining to the IAT and racial attitudes. First, participants showed a significant pro-White bias as measured by the IAT. Secondly, the ERP showed an activation of two neural pathways: Proactive and Reactive. (These pathways are outlined in the dual mechanisms of control (DMC) framework; for more information, see Braver, 2012.) Proactive control is exhibited during maintenance of goal information in working memory, and reactive control acts as a corrective mechanism in response to cognitive and behavioral conflict. Proactive and Reactive control respond to congruence and control (task-switching) effects, respectively. Most notably, the results demonstrate use of control processes differs according to IAT performance (e.g., individuals with higher levels of bias engage in more cognitive control during the task, and vice versa). Though this finding suggests cognitive control is implicated as a source of variance in IAT scores (i.e. it confounds IAT validity), it may prove a vital process to overcome racially-biased associations.

One neuroimaging procedure used for measuring brain responses to stimuli is functional Magnetic Resonance Imaging (fMRI), which has been employed in previous implicit bias literature (Brosch, Bar-David, & Phelps, 2013; Cunningham et al., 2004; Lieberman, Hariri, Jarcho, Eisenberger, & Bookheimer, 2005; Phelps et al., 2000; Ronquillo et al., 2007). In a 2014 book chapter about social neuroscience, Phua and Christopoulos provided an overview of experimental literature in social fields (e.g., social psychology, social work, healthcare, etc.) that would be compatible with fMRI analysis in order to expand multidisciplinary research (Phua & Christopoulos, 2014). The article includes several areas of research that are particularly relevant for studying implicit racial bias, four of which are: attitude and evaluative processes, racial stereotypes, culture, and social interactions. Additionally, the authors made special mention of the IAT as a task that is compatible with fMRI analysis, thus making it a good match for future studies that assess the neurological basis for bias.

### THE IMPLICIT ASSOCIATION TEST (IAT)

Like prior studies (see, e.g., Casad, Flores, & Didway, 2013; Hilliard, Ryan, & Gervais, 2013), Adams and colleagues examined the use of the IAT as an educational and consciousness-raising tool in a classroom context. The researchers found that the IAT was a valuable teaching tool when included in a three part discussion-based module related to implicit bias and the motivation to control prejudice (Adams III, Devos, Rivera, Smith, & Vega, 2014).

Blanton, Jaccard, and Burrows examined the IAT's scoring algorithm, the D score, in order to assess its validity for determining psychological states, specifically in terms of identifying implicit racial bias (Blanton, Jaccard, & Burrows, in press). The researchers used algebraic equations, computer-simulation, and an online survey with 658 participants. Their results indicated that the effect of trial error may produce more extreme scores, thus the authors suggest future IAT research explore using a different algorithm and more meaningful cut points to delineate subjects' scores.

Acknowledging that the IAT may be influenced by non-associative processes, Calanchini and colleagues used the Quadruple Process model to assess the degree to which the following 4 factors were attitude-specific (i.e., their operation differs based on the attitude being assessed) vs. general (i.e., they function alike without respect to any specific attitude being measured): 1) activation of associations; 2) detection of correct responses; 3) overcoming bias; and 4) guessing (Calanchini, Sherman, Klauer, & Lai, 2014). In a two-part study using both undergraduate participants and data from Project Implicit, researchers required participants to complete IAT pairs that varied in level of conceptual overlap. Overall, results showed that association activation and guessing were attitude-specific, whereas detection of correct responses and overcoming bias were general processes (Calanchini et al., 2014). Regarding the significance of these findings for interpreting IAT data and creating debiasing strategies, the authors note that debiasing can include attitude-specific (e.g., racial debiasing) or general (e.g., executing cognitive control and inhibition) methods to decrease biased associations.

Finally, in an exciting development for the field that provides a wonderful opportunity to expand the potential for further IAT-based research, Xu, Nosek, and Greenwald announced the release of a 2002–2012 archive[5] of primary data from the Race IAT, including both data and supplementary documentation (Xu, Nosek, & Greenwald, 2014).

### RESEARCH INVOLVING AVATARS

Grace S. Yang and colleagues published a fascinating article on the effects playing violent video games as a Black avatar had on White participants' implicit and explicit attitudes toward Blacks. Participants were randomly assigned to play a video game as either a Black or a White avatar. In some cases, the video game

5. The data repository is located at http://osf.io/project/52qxL/.

required violence to complete the stated task; in others, the goal did not require any violent actions. Participants' implicit and explicit attitudes toward Blacks were assessed through the Race IAT and Symbolic Racism 2000 Scale, respectively. Findings indicated that playing a violent video game as a Black avatar increased negative attitudes toward Blacks on both implicit and explicit measures (G. S. Yang et al., 2014). Moreover, a second portion of this study explored aggression, concluding that playing a violent video game as a Black avatar increased participants' implicit association between Blacks and violence and influenced participants to behave aggressively following the video game session (G. S. Yang et al., 2014). As the first study to capture the connection between playing violent video games as a Black avatar and the troubling subsequent negative and violent stereotyping of Blacks, this article garnered some media attention (see, e.g., Grabmeier, 2014; Harvey, 2014).

**CHILDREN**

An extensive article by Phillip Goff and colleagues tested whether Black children are granted the protections afforded their peers, such as perceptions of innocence or being seen as "childlike." Across a series of studies that largely focused on views of Black boys, research findings included the following (Goff, Jackson, Di Leone, Culotta, & DiTomasso, 2014):

■ Perceptions of children's innocence varied by race and age. Generally speaking, Blacks were viewed as less innocent than Whites and people in general (race unspecified). Starting at age 10, Blacks were regarded as significantly less innocent than other children of the same age.

■ Participants overestimated the age of Black males (ages 10-17) when those males were presented as having committed either a misdemeanor or felony. Alarmingly, when perceived as a felony suspect, Black males were seen as more than 4.5 years older than their actual age. Black males were also viewed as more culpable than their Latino or White counterparts were. Contributing to this racial disparity is the implicit dehumanization of Blacks; as participants' implicit associated Blacks and apes increased, so too did their age overestimation of Black males and perceived culpability of Blacks.

Using a sample of police officers, researchers found that the implicit dehumanization of Blacks (i.e., implicitly associating Blacks with apes) predicted the extent to which officers overestimated Black children's ages, perceptions Black suspects' culpability, and the use of force (ranging from takedown/wrist lock to disarming a firearm or giving a choke hold) against Black children relative to youth of other races.

The researchers recognize that the implicit dehumanization of Blacks "not only racially disparate perceptions of Black boys but also predicts racially disparate

police violence toward Black children in real-world settings" (Goff et al., 2014, p. 540). Reflecting on this collection of studies broadly, their results suggest that "although most children are allowed to be innocent until adulthood, Black children may be perceived as innocent only until deemed suspicious" (Goff et al., 2014, p. 541).

#### POLITICAL BEHAVIOR

In a June 2014 article, researchers Shanto Iyengar and Sean J. Westwood assessed partisan-based bias using explicit and implicit measures (Iyengar & Westwood, 2014). To assess implicit attitudes for political party, the authors conducted one study with 2000 participants who took a Democrat/Republican Brief IAT (BIAT) for partisanship and a Black/White BIAT for race. Results from the BIAT suggested that ingroup partisan bias was stronger than ingroup racial bias. The authors include two other studies that demonstrate how the automatic associations for political party affiliation can lead to overt discrimination for members of another party.

#### BOOKS AND BOOK CHAPTERS

In his most recent literature, Howard Ross stressed the importance of viewing implicit bias not as something inherently bad and in need of eradication, but rather as something that can be positive or negative and that can have constructive or destructive outcomes (Ross, 2014a, 2014b). Using this framework, Ross analyzes the four domains of unconscious bias: 1) destructive use of negative bias, such as someone not being hired or promoted because they belong to a certain group; 2) constructive use of negative bias, otherwise known as your danger detector and the automatic responses you have when someone points a knife at you; 3) constructive use of positive bias, such as hiring someone based on certain positive qualifications that are agreed upon and proven to be best for the position; and finally, 4) destructive use of positive biases, such as hiring someone because they "feel familiar" even when there are more talented candidates (Ross, 2014a, 2014b). Ross contends that by expanding the discourse surrounding implicit bias beyond the often held negative connotation, individuals can more effectively target those biases they want to intervene in (Ross, 2014a).

Ross goes on to differentiate between two kinds of implicit bias: warmth and competence. Warmth refers to our emotional responses to people, whereas competence refers to our analytical perspective of different types of people (Ross, 2014b). For instance, homeless people tend to generate both a low level of warmth and a low level of competence from most individuals; conversely, middle-class Americans engender both a high level of warmth and a high level of competence from others. Alternatively, the elderly produce high levels of warmth but low levels and competency from non-elderly individuals; however, rich Americans generate low levels of warmth and high levels of competence from most other individuals (Ross, 2014b).

Ross also outlines ten way unconscious bias operates in our world (Ross, 2014a, 2014b):

■ *Selective Attention*—We tend to selectively see some things but not others depending on the context (e.g., pregnant women are more likely to notice other pregnant women).

■ *Diagnosis Bias*—the propensity to label people, places, and things, based on our first impression irrespective of evidence put before us.

■ *Pattern Recognition*—the tendency to sort information based on prior experience.

■ *Value Attribution*—the inclination to infuse a person or thing with certain qualities based on initial perceived value (i.e. judge someone's importance based on what they are wearing).

■ *Confirmation Bias*—the tendency to unconsciously seek out evidence to confirm what we believe is true.

■ *Priming Effect*—the implicit tendency to respond to something based on expectations created by a previous experience or association.

■ *Commitment Confirmation*—the tendency to become attached to a particular point of view even when it may be obviously wrong.

■ *Stereotype Threat*—the experience of anxiety or concern in a situation where a person has the potential to confirm a negative stereotype about their social group.

■ *Anchoring bias*—the common tendency to rely too heavily on one trait or piece of information when making decisions, such as assuming that people from elite school are more qualified despite holes in the elite school graduate's credentials.

■ *Group Think*—the influence of group associations and beliefs on our thoughts and behaviors.

Lastly, Ross offered insight into ways people can begin to disengage from implicit bias: 1) Recognize that bias is a normal part of the human experience; 2) develop the capacity for self-observation by enhancing our metacognitive capacity—our capacity to learn and observe our somatic responses to our thoughts as a mechanism of assessing our thinking; 3) practice constructive uncertainty by allowing ourselves to assess, acknowledge, understand, dissect, and alter our automatic responses; 4) explore awkwardness and discomfort by questioning the source of our discomfort with different groups of people; 5) engage with people in groups

you may not know very well, or about whom you harbor biases; and 6) get feedback and data where possible (Ross, 2014a, 2014b).

**OTHER SCHOLARSHIP**

Shoda, McConnell, and Rydell explored the judgment and decision-making process for individuals who showed a high discrepancy in their explicit and implicit racial evaluations (Shoda, McConnell, & Rydell, 2014). Explicit and Implicit Evaluation Discrepancy was (EIED) assessed by comparing scores on an explicit questionnaire about racial attitudes towards African Americans and Whites and with IAT data. Greater EIED is described as those who held largely egalitarian explicit beliefs toward African Americans, yet exhibited more racially biased results on the implicit measure. The experiment included two studies that looked at how racial bias affects the ways individuals maintained their beliefs. The first study asked White undergraduate participants to rate how one obtains a level of competence in certain domains (e.g., "how many books must a person read per month for you to consider them well read") (Shoda et al., 2014, p. 193). Results demonstrated greater EIED was related to setting higher standards for stereotyped traits associated with being White (e.g., being studious) and setting lower standards for stereotyped traits associated with being African American (e.g., dancing) (Shoda et al., 2014). These results are consistent with findings that people tend to evaluate competency in a way that affirms their own accomplishment and discounts excellence in areas where they are weak (Dunning & Cohen, 1992). Considering racial bias and belief maintenance further, a second study measured White undergraduates' pre-existing implicit and explicit beliefs related to conceal and carry laws and had them read an article supporting these laws (which did not align with their self-professed existing attitudes). Results shows that participants with greater Explicit and Implicit Evaluation Discrepancy (EIED), expressed significantly greater attitude polarization (i.e., the article strengthened their previously held beliefs) when they believed the article author was African American than when the author was presented as White (Shoda et al., 2014). Together these results suggest that possessing greater racial attitude EIEDs can elicit race-related reasoning.

Because accents are highly related to perceptions of a speakers' race or ethnicity, accents may elicit similar implicit stereotypes. Researchers Livingston, Schilpzand, and Erez explored the implicit influence of spokespersons' accents on a participants' decision to choose the company or position the speaker represented (Livingston, Schilpzand, & Erez, forthcoming). The article included two studies with a total of 769 undergraduate participants. Participants listened to a speaker who was a spokesperson of a product or applying for a job, and then subsequently asked whether they would choose the participant's company or choose them for the position, respectively. Results implicated that participants were more likely to choose a company or hire an individual when the speaker had a standard American accent rather than a Mandarin, French, Indian, or British accent. Additionally, levels of pro-American bias, measured by an IAT, moderated these effects.

In their study on the influence of race in consumer behavior, Brewster and Lynn examined differential tipping behavior for Black and White restaurant servers (Brewster & Lynn, 2014). The authors hypothesized that implicit bias perpetuates racial disparities in earnings and noted its importance in understanding the results of the study. Analysis of tipping reports showed Black servers were tipped less than their White counterparts, regardless of the race of the customer, and despite the fact that Black servers were rated as providing better service quality, overall.

Research by Yogeeswaran and colleagues explored how national identification affects attitudes—both explicit and implicit—toward a White ethnic group (e.g., Polish Americans) and a non-White ethnic group (e.g., Chinese Americans) depending on whether members of a given ethnic group expressed their ethnic identity in a private or public manner. In the study that examined perceivers' unconscious attitudes, findings indicated that White perceivers' national identification predicted more bias against a non-White ethnic group that expressed their ethnic identity via language in public (Yogeeswaran, Adelman, Parker, & Dasgupta, 2014). Conversely, national identification had no effect on White perceivers' implicit attitudes towards a White ethnic group, regardless of whether they were displaying their ethnic identity in public or private. Researchers reflected that "… the prototype of American nationality as White unconsciously grants White ethnics the liberty to express ethnic identity in any context without it having consequences for perceivers' implicit attitudes toward their entire group" (Yogeeswaran et al., 2014, p. 367).

In a workshop paper, Gerling, Birk, and Mandryk considered the use of implicit measures, such as the IAT, when studying the effects of persuasive games, meaning those that "attempt to change player attitude and behaviours" (Gerling, Mandryk, & Birk, 2014, n.p.). Traditionally attitude change after persuasive gameplay was measured with explicit questionnaires; however, the authors note that because some of the experiments include content that may incite social desirability (such as with respect to race or disability status), implicit measures may prove as a more valid method for assessing the effects of persuasive games, overall. ■

# 10 IMPLICIT BIAS WORK AT KIRWAN

*"It is probably not possible for us to get rid of all our biases, nor is it desirable. Our brain's way of sorting through lots of stimuli quickly is what allows us to move through the world and survive. What we need to learn is how to slow down the biases that betray our values long enough for us to act in a way that is more aligned with what we believe."*

Vernã Myers , 2012

AS AN INTERDISCIPLINARY ENGAGED RESEARCH INSTITUTE at The Ohio State University, the Kirwan Institute works to create a just and inclusive society where all people and communities have opportunity to succeed. Our work highlights how both structural racialization and cognitive forces such as implicit bias can serve as powerful barriers that impede access to opportunity. As previous editions of the *State of the Science: Implicit Bias Review* have cemented the Kirwan Institute's presence in the implicit bias field, our workload in this realm has expanded considerably as we look to both raise awareness of the dynamics of implicit bias and contribute to this burgeoning research area. This chapter briefly summarizes some of the Kirwan Institute's key publications, research projects, and collaborations from 2014.

Following the wonderful response to our inaugural 2013 publication, the 2014 edition of our signature implicit bias publication, *State of the Science: Implicit Bias Review*, disseminated knowledge about the cognitive forces that unconsciously influence individual behavior and contribute to various social disparities. Domain-specific chapters in the 2014 edition included employment and neighborhoods and housing.

Supplementing this broad level overview, the Kirwan Institute has increasingly dedicated energy into projects designed to examine how implicit bias operates in

specific realms. On the education front, in May 2014 Kirwan released a package of reports and multimedia materials that uplift implicit racial bias as a possible contributing factor to the persistent racialized disparities that exist in K–12 school discipline. Central to this work are three major reports. "Implicit Racial Bias and School Discipline Disparities – Exploring the Connection" uses implicit bias literature to establish how these dynamics can affect perceptions of disciplinary situations and connects these ideas to the school-to-prison pipeline. This document closes by offering concrete suggestions for diverting students from the school-to-prison pipeline by addressing implicit racial bias. For a second major report, we analyzed data from the Ohio Department of Education's databases to examine discipline data and trends over time by race. We also identified four case study districts and studied their discipline policies extensively to understand district-specific data in light of their policies. A third major report details interventions designed to address racialized discipline disparities and school "push out;" it features the efforts of a range of states, districts, and schools and documents any changes the interventions produced to date. These major publications were complemented by three smaller issue briefs, a social media and communications toolkit, an introductory video, and a webinar we co-presented with the Children's Defense Fund of Ohio. All publications and project materials, including the webinar recording, are available at **www.KirwanInstitute.osu.edu/school-discipline**.

On the health front, the Kirwan Institute partnered with the Association of American Medical Colleges (AAMC) on their third annual Diversity and Inclusion Innovation Forum. Held in Washington, D.C., the June 2014 event gathered researchers and practitioners from across the U.S. to examine unconscious bias in academic medicine, with an eye towards identifying promising interventions that can mitigate the influence of implicit bias. The Kirwan Institute's partnership with the AAMC will yield a forthcoming monograph and video series dedicated to examining unconscious bias in seven different areas of academic medicine, ranging from medical school admissions to faculty mentoring to health care delivery.

**The Kirwan Institute was invited to serve as a partner institution for "Look Different," a multi-year MTV campaign designed to help Millennials recognize and respond to bias**

Moreover, our work is also reaching a younger population. The Kirwan Institute was invited to serve as a partner institution for "Look Different," a multi-year MTV campaign designed to help Millennials recognize and respond to bias. Launched in April 2014, this three-year campaign specifically addresses racial, gender, and anti-LGBT bias, with the goal of empowering Millennials to better counter hidden biases they see and experience. The multifaceted campaign includes on-air programming, social media activity, innovative digital tools, and celebrity engage-

ment, among other approaches. Assisting with part of the campaign's emphasis on debiasing, the Kirwan Institute helped MTV to develop exercises to help people to begin to counter the implicit biases they possess.

Beyond this research and these impactful partnerships, Kirwan Institute staff gave numerous presentations on implicit bias in 2014, ranging from small community groups to webinars to national conferences, reaching a vast range of audiences and stakeholders across several fields.

Looking ahead to 2015, the Kirwan Institute has an ambitious research plan that will continue to delve into the complex operation of implicit bias across several key opportunity domains. We are also excited to release our first full-length documentary, *Free to Ride*, which explores the connections between race, class, and transportation inequality. Focusing on Beavercreek, Ohio, this film follows a community's four-year struggle over the proposed extension of an existing bus route into a neighboring suburb in order to provide bus riders greater access to economic and educational opportunity. Some residents expressed concerns and fears related to their perceptions of the bus riders. These concerns strongly suggest the presence of automatic unconscious associations that shaped the dialogue around this transportation proposal. For updates on this film and its upcoming release, please visit **www.KirwanInstitute.osu.edu/freetoridedoc**.

As convincing research evidence accumulates, it becomes difficult to understate the importance of considering the role of implicit racial biases when analyzing societal inequities. The Kirwan Institute remains committed to raising awareness of the distressing impacts of implicit racial bias and exposing the ways in which this phenomenon can create and reinforce racialized barriers to opportunity. ■

## Real World Implications:

The fictional storylines woven through this edition of the *State of the Science: Implicit Bias Review* provide a glimpse into the nuances of implicit bias operation and its effects on individuals' life experiences. Despite best intentions, these unconscious cognitive forces can be activated and function in subtle yet impactful ways that shape life trajectories.

# *Primer on Implicit Bias*

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; J. 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 et al., 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; J. 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 (J. 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; J. Kang et al., 2012; J. Kang & Lane, 2010; Nosek, Smyth, et al., 2007). Everyone possesses them, even people with avowed commitments to impartiality such as judges (Rachlinski et al., 2009).

■ Implicit and explicit biases are generally regarded as **related but distinct mental constructs** (Dasgupta, 2013; J. Kang, 2009; Wilson, Lindsey, & Schooler, 2000). They are not mutually exclusive and may even reinforce each other (J. 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; J. 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; J. 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; J. Kang, 2009; J. 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; J. 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" (Amodio & Devine, 2009; Dasgupta, 2013; Dovidio

et al., 1997; Fazio et al., 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 et al., 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 et al., 2008; Tinkler, 2012). Finally, response latency measures that analyze reaction times to stimuli can provide insights into how strongly two concepts are associated (Amodio & Devine, 2009; J. 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 (J. 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; J. Kang & Lane, 2010; Nosek, Greenwald, et al., 2007), validity (Greenwald; Greenwald, Poehlman, et al., 2009; Jost et al., 2009), and predictive validity (Blanton et al., 2009; Egloff & Schmukle, 2002; Fazio & Olson, 2003; Greenwald & Krieger, 2006; Greenwald, Poehlman, 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" (J. 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, Poehlman, et al., 2009; McConnell & Liebold, 2001; Nosek et al., 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).

#### 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; J. 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; J. 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 (J. 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; R. A. Hernandez et al., 2013; Teal et al., 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; J. 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; J. 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).

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