Implicit Bias in Social Interactions

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On September 26, 2016, in the most-watched presidential debate in U.S. history (CNN, 2016), over 80 million viewers saw candidates Hillary Clinton and Donald Trump discuss one of the most influential phenomena in the field of psychology: implicit bias. On the heels of several high-profile police shootings of unarmed African Americans, coupled with an increased awareness of the number of unarmed African Americans shot by police in recent years (Mapping Police Violence, 2015), the debate turned to a contentious discussion of how race plays into policing in the United States. Questioning the candidates about their positions on this issue, debate moderator and American journalist Lester Holt asked Secretary Clinton if she "believed that police [were] implicitly biased against Black people" to which Clinton responded, "Implicit bias is a problem for everyone, not just police."

Within moments of this exchange, social psychologists began posting about it on social media. Many of us were thrilled and validated to see the phrase *implicit bias* brought up so naturally in such an important context. Holt's use of the term suggested that the term *implicit bias* had made its way from our sometimes-obscure scientific journals into the everyday vernacular. Perhaps more importantly, though, Secretary Clinton's response reflected what scientists have been documenting for decades: bias can occur outside of awareness and can affect the behavior of even the most well-intentioned people, in a variety of situations. For example, in 2018, implicit bias was front and center in the news, as commentators grappled to explain a seemingly endless series of well publicized events, in which in which black people were going about their daily business—hanging out in a Starbucks, barbequing in the park, shopping for a prom dress, taking a nap in a dormitory, and so on—only to appear suspicious to white people

who then call 911. "Living while black" became a meme after the Starbucks incident, in which two black men sat in a Starbucks waiting for their friend and asked to use the bathroom but did not make a purchase. Told to order or leave, the men stayed and were confronted by police after an employee called 911. After public outcry, Starbucks closed its doors about a month later, in order to conduct 4 hours of "anti-bias" training with their employees. Police shootings may be the most dramatic instance, but there are many more mundane situations where our hidden biases make for problematic interactions. As you can well imagine, these snafus are extremely costly. Calling the police when a white employee mistakenly interprets benign behavior (asking to use the bathroom) as threatening—a classic implicit bias research finding—costs taxpayers dearly. Closing doors of an international behemoth like Starbucks even for several hours, cost Starbucks a great deal of money, as much as 30 million dollars, which means, if you are a customer, implicit bias may add to the cost price of your Frappuccino.

A few weeks after the 2016 presidential debate, we talked to Brian Nosek, a social psychologist who co-founded "Project Implicit" (http://www.projectimplicit.net/about.html) with fellow social psychologists, Mahzarin Banaji and Anthony Greenwald. Project Implicit is a website that has served as a bridge between scientists and the mainstream public by making measures of implicit bias readily available—anyone can take one of the tests measuring our unconscious and automatic associations about, race, gender, sexual orientation—and virtually any social identity. After providing people with reports on their own implicit bias towards a particular group, Project Implicit also presents overviews of the scientific literature on implicit bias that are easy to digest, and spell out the implications of our subtle biases. According to Professor Nosek,

More than 20 million people have completed tests at Project Implicit—there have been thousands per week for more than 15 years. When we started the website in 1998, we had to constantly work to get across the concept that bias could occur without intention or awareness and that the roots of bias are ordinary. Now, those themes are present in most articles and in most comments by people in the public eye talking about implicit bias. Hillary Clinton's comments on implicit bias, for example, were pretty well aligned with the science. Of course, our work as social psychologists is not finished yet, as illustrated by the frequent—and fundamental—misunderstandings of the meaning of *implicit* in the comments of many politicians. Candidate Pence, for example, said of implicit bias in the context of police shooting unarmed black men:

"Enough of this seeking every opportunity to demean law enforcement broadly by making the accusation of implicit bias every time tragedy occurs…when African-American police officers are involved in a police action shooting involving an African-American, why would Hillary Clinton accuse that African-American police officer of implicit bias?"

As implicit bias enters the American discourse, social psychologists are working to remedy this kind of misunderstanding with clear, scientific evidence and what it means that social animals are prone to biases they may consciously deny. Where does implicit bias come from? What kinds of behaviors can we predict from measuring these *implicit biases* (e.g. with IAT scores) that we cannot predict from measuring *explicit attitudes* (e.g., with surveys) that we can be aware of, report, and consciously control? And, critically, what is the distinction between implicit bias and prejudice? These are the questions we address in this chapter.

We begin with an overview of how individuals develop implicit biases over a lifetime. We then discuss how implicit bias influences behavior in one particular social setting with great relevance for social animals: interracial interactions between. We focus on interactions in which

two people want a positive relationship and generally hold positive (explicit) attitudes about their partner's racial group. For example, imagine a black student and a white student at a typical American college, meeting each other for the first time as roommates. Both roommates believe that racial progress is important and that racial discrimination is wrong. This kind of encounter is frequent on college campuses. Imagine that the white roommate makes an effort to engage in friendly overtures towards the black roommate—asking her where she is from and what she enjoys doing for fun, her musical tastes, and so on. During the conversation, she might also exhibit nonverbal behaviors that signal how at ease she is around her new roommate. Does she make eye contact? Are her arms crossed or open? Is she fidgety or showing other signs of discomfort? Which kinds of behaviors are most related to implicit attitudes? And what kinds of behaviors—implicit or explicit—will play the bigger role in determining how the roommates will feel about one another after such an interaction?

These situations are, of course, a two way street, but because implicit biases held by *majority group* members (e.g., Whites in the United States) of *minority group* members (e.g., Blacks in the United States) received the most attention from social psychologists, and therefore most of the available data pertain to the implicit and explicit biases of majority group members—like the Starbucks barista who called 911; white people expressing bias toward cultural minorities. Implicit bias researchers like us disagree vehemently with Mike Pence: implicit biases are universal; we all have them, and are capable of acting on them under certain conditions. But the news stories that grab the national spotlight—and the attention of social psychologists—involve white people acting with prejudice against and other minority groups,and the bulk of the available experimental data white people's biased perceptions of blacks.

How Do People Form Implicit Biases?

Today, many people (but clearly not all) living in the United States advocate for egalitarian racial norms and discourage negative treatment of individuals based on their race or ethnic background (Bobo, 2001; Crandall, Eshleman, & O'Brien, 2002). In other words, explicit bias, at least when it comes to attitudes towards Blacks, have been in decline for the past 50 years, though there are clear signs in the past few years of an upswing inexplicit prejudice. At the societal level, laws protect groups against explicit forms of discrimination. For example, it is illegal to explicitly discriminate against minorities when it comes to giving them access to housing (see the Fair Housing Act, 2015) and to deny people healthcare based on their race (Smedley et al., 2003). At the interpersonal level, among egalitarians, it is often socially unacceptable to admit to having explicit prejudice against Blacks (Trawalter, Adam, Chase-Lansdale & Richeson, 2012), and a lack of racial diversity within organizations and even film has recently come under fire. For example, Forbes Magazine (2018) recently made a call to increase diversity in tech, following a similar call in other industries, where diversity has been described as a moral imperative. In 2016, several actors boycotted the Oscars because of a lack of diversity among the nominees.

Overt forms of discrimination (such as the vandalism, threats, and intimidation that occurred in the wake of the 2016 U.S. presidential election (Reilly, K., 2016) typically map onto people's explicit attitudes (Blank, Dabady, Citro, 2004). In other words, explicit attitudes are closely tied to acts of blatant racial discrimination. Indeed, explicit attitudes strongly predict deliberative behaviors that are well within our control, such as our willingness to hire a racial minority for a job, to live in a dorm room with someone of a different religion, or to vote for someone who is a woman (Dovidio et al., 2002).

Explicit attitudes are fairly easy to measure given the proper tool, and people who harbor explicit negative beliefs will often tell you exactly how they plan to behave in light of those beliefs. If a person tells you he doesn't want a woman in the White House, you can be pretty confident he won't vote for a female presidential candidate. However, *implicit attitudes*, which occur outside of conscious awareness (Greenwald & Banaji; 1995), are a trickier beast. First, people's implicit attitudes often diverge from their explicit attitudes. Returning to the example of the college roommates, the White roommate may hold an explicit, positive attitude towards Blacks, but at the implicit level, she might still exhibit a "pro-white" bias. This implicit bias might lead her to engage in some negative nonverbal behaviors that she is unaware of, such as fidgeting and avoiding eye contact when talking with her roommate. You can imagine that the white roommate may be giving "mixed messages" to her black roommate—she might be saying friendly things but appear uncomfortable while saying them—sometimes known as the "brittle smiles effect" in the literature on intergroup interaction (Mendes. & Koslov, 2013).

Readers of the *Social Animal* know that people are quite adept at holding two sets of attitudes that are in conflict. According to the theory of *aversive racism* (Dovidio & Gaertner, 2004; see also theories of *modern racism*; McConahay, 1986; and *symbolic racism;* Sears, Henry, & Kosternman, 2000), non-Blacks sympathize with victims of past injustices toward Blacks, are motivated to be egalitarian, and genuinely see themselves as non-prejudiced. Yet, these individuals possess conflicting, often unconscious, negative feelings and beliefs about Blacks. As summarized by Pearson et al. (2016), "they find Blacks 'aversive,' while at the same time find any suggestion that they might be prejudiced 'aversive' as well."

Where do our implicit attitudes come from? Implicit attitudes begin forming at a very young age, through of life experiences, social modeling by parents and others, as well as the

influence of larger culture to which we are exposed; bias is transmitted both within communities and across generations (see Dovidio & Gaertner, 2004, for a review). Children "learn" to be implicitly biased through social modeling, and researchers have found that children engage in behaviors consistent with an aversive racist profile at a very young age, when they become aware that the larger culture frowns upon overt prejudice (around age 9; for a review see Apfelbaum, Norton, & Sommers, 2012; see also McGillicudy-de Lisi, Daly, & Neal, 2006). Children who feel more identified with their parents also show greater correspondence between their parents' implicit levels of racial bias and their own (Sinclair, Dunn, & Lowery, 2005). This finding suggests that intergenerational transmission of implicit bias is possible and that it occurs most strongly for children who have strong ties to their parents. Implicit racial bias also has motivational and sociocultural origins; harboring negative attitudes about individuals from certain groups can help maintain and justify the status quo and can help people maintain or gain a sense of power (Sidanius & Pratto, 1999).

Social modeling needn't be directly from family; the television shows and other media we consume serve as subtle teachers and reminders of implicit bias, influencing our nonconscious attitudes towards people of different races. Researchers investigated eleven popular television shows and found that the main characters tended to dislike black characters in the show more often than the white characters, and treated them less positively (Weisbuch, Pauker, & Ambady, 2009), thus in effect modeling prejudice and discrimination while entertaining the viewer. People exposed to these shows showed elevated levels of implicit bias against Blacks.

Finally, implicit racial bias also stems from basic cognitive processes. In the 1970s, a "cognitive revolution" took place in social psychology, and scholars shifted from thinking about

bias as an abnormal, almost pathological process (as discussed in the class work on authoritarian personality by Adorno, Frankl-Brunswik, Levinson, and Stanford, 1950), to a normal, adaptive process. Scholars began to recognize how readily our minds categorize other people into "us" versus "them." This is adaptive. Had our ancient ancestors failed to discriminate between us and them, they could die at the hands of a stranger. In modern society our predicament tends to be that we too often see other human beings as other—as *them*, using cues like race, gender, political party, and religion to divide us and exaggerate our differences.

On the bright side, although implicit bias may be natural, it is also malleable. For example, Van Bavel and Cunningham (2009) assigned white participants to belong to a *minimal group*—that is, a group that is formed on arbitrary means like "You are part of a group that likes Artist A better than Artist B." Being assigned to groups like this typically activates our sense of connection to the individuals in our group, making us feel more similar, and our sense of difference from *them*, those in other groups. In this study, the researchers asked—what happens to anti-black bias in whites if they are put on the same team or in the same group with blacks? Their findings showed that being in a minimal group with someone from another racial group can of override the kind early-learned implicit biases that are often thought to be entrenched by early learning; white students assigned to a team that included black individuals showed reduced anti-black bias on the IAT. Similar work has shown that when people share a common in-group identity, such as loving the same sports team, their shared identity can override implicit racial biases in predicting behavior towards racial out-group members (Dovidio & Gaertner, 2004). The perception of similarity increases attraction and reduces bias; so after discussing their likes and dislikes, our two college roommates may find that their shared love of quantum mechanics

serves as a “superordinate identity”, and once this identity is discovered, the white roommate relaxes, no longer feels and seems so awkward in her nonverbal behaviors.

The Effects of Implicit Bias on Interpersonal Interactions

Judgments of Outgroup Members

How might biases below our conscious awareness affect our interactions with other people? Before even interacting with a person of another race, implicit bias can sneak in to affect our initial judgments of out-group members. This is particularly likely to occur in situations of uncertainty and ambiguity, which allow individuals to easily attribute their behaviors to features of the situation other than the race of the target. For instance, when hiring, comparing a black to a white job candidate, the white boss will almost always choose the black candidate if he or she is more qualified than the white candidate, because it is hard to rationalize one’s decision on the basis of something other than race. However, if both candidates have equal but different qualifications, people will typically choose the white candidate because they can easily attribute their choice to features of the target other than race (e.g., “The black candidate had more experience but the white candidate had more education which is more important”; Gaertner & Dovidio, 1986).

As you might imagine, judgments and behaviors that are biased in this way can systematically disadvantage minorities. Over the course of many interactions, these judgments and behaviors maintain the status quo of whites having higher status and power than minorities. Critically, it can be difficult to label any one subtle judgment or behavior that contributes to the systematic disadvantage of minorities as evidence of prejudice; only when behaviors are examined in the aggregate does it become clear that racial disparities exist.

Intergroup Anxiety

Once interacting with an outgroup member, certain processes make it more likely that implicit bias will influence behavior. A key factor is *intergroup anxiety*, the stress we feel when interacting about whom we hold implicit biases. Intergroup anxiety arises for a number of reasons—for many the mere presence of a racial out-group member is enough to elicit intergroup anxiety. But intergroup anxiety is more likely when individuals feel that there is the potential for the interaction to go poorly or when they are concerned that their partner will perceive them as prejudiced (Stephens & Stephens, 1985; Stephens, 2014). For example, Whites who fit the profile of an aversive racist (low in explicit bias, but high on implicit bias, Amodio & Hamilton, 2012), intergroup interactions are particularly anxiety-provoking because as noted earlier, these individuals are both "averse" to interacting with minorities and "averse" to being perceived as prejudiced by others (Dovidio, Pearson, & Gaertner, 2016). This aversion can lead to the experience of intergroup anxiety, particularly in situations lacking strong social scripts prescribing appropriate behavior. For instance, in the presence of a Black (vs. White) experimenter, Whites who fit the aversive racist profile measured highest in stress hormone cortisol (Amodio, 2009), indicating they were the most anxious.

How does this kind of anxiety influence behavior? One effect is that anxiety limits people's ability to regulate the activation of stereotypes, making racial stereotypes more likely to be brought to mind. In other words, working to appear non-prejudiced can ironically lead to making people think about stereotypes even more, and consequently, can increase the expression of racial bias (Apfelbaum, Norton, & Sommers, 2012). Similarly, intergroup anxiety hinders our ability to control the automatic reactions to the activation of negative stereotypes. It is during unstructured social situations where people feel intergroup anxiety where implicit bias is most

likely to manifest as behavioral expressions of bias (for a review see Toosi, Babbit, Sommers, & Ambady, 2012).

Expression of Implicit Bias

How do people express prejudice in cross-race interactions? In everyday encounters, implicit bias can result in nonverbal displays of anxiety and discomfort, and, in some cases, lead to exaggerated (disingenuous) positivity (Kawakami, 2014; Mendes & Koslov, 2013; for a review see Pearson et al., 2016). Because implicit bias can lead individuals to want to avoid interracial encounters (Plant & Devine, 2003), implicit prejudice can "leak" through behavioral indicators of discomfort and avoidance when forced to engage in the interracial interaction. Implicit bias is associated with less eye contact with an interaction partner, and engaging in more avoidance behaviors, such as crossed arms and maintaning greater physical distance (Dovidio et al., 2002).

More recently, scholars have shown that people sometimes try to overcompensate for their implicit biases so prejudiced. However, these overcompensation behaviors can backfire. As noted previously, Mendes and Koslov (2013) found that Whites who experience elevated physiological threat during interactions with Blacks also demonstrated "brittle smiles" or exaggerated and disingenuous positivity. As you might imagine, when people display exaggerated positivity mixed with nonverbal indicators of anxiety, the interaction may produce confusion for their racial minority interaction partners (Dovidio et al, 2002; West, 2011). On the one hand, they appear super friendly; on the other, they look anxious. Because minorities are generally aware that many whites profess to support egalitarianism but are also capable of discrimination and hiding biases, mixed signals often get read as partners as indicators of

prejudice (Dovidio et al., 2002). Efforts to appear non-prejudiced can have the opposite effect as intended.

Vigilance and its consequences

Racial minorities are often on the lookout for the expression of bias in their White interaction partners. Just as we vary in our their levels prejudice, we vary in how sensitive we are to detecting prejudice, and bring to our interactions more or less suspicion about how prejudiced our interaction partners might be (Major, Sawyer, & Kunstman, 2011), expectations for being the targeted of prejudice (Page-Gould, Mendoza-Denton, & Tropp, 2008; Shelton, 2003; Shelton, Richeson, & Salvatore, 2005). In situations where the potential for experiencing negative treatment on behalf of Whites is high, racial minorities tend to approach interactions with caution. Minorities may be especially vigilant to Whites' behaviors and attuned to subtle expressions of bias (Frable, Blackstone, & Scherbaum, 1990; Kaiser, Vick, & Major, 2006; Richeson & Shelton, 2010). In intergroup interactions, these processes can lead individuals to look for signs that confirm their suspicions (West, 2011); give more weight to stereotype confirming versus stereotype disconfirming behaviors and information (Kunda & Spencer, 2003; Shelton & Richeson, 2005); imbue ambiguous behaviors with surplus meaning (West, 2011); and encourage more negative explanations for out-group members' actions, compared to identical actions from in-group members (Hess, Adams, & Kleck, 2008, Shelton & Richeson, 2005).

West, Shelton, and Trail (2009) examined the iterative process of perception of stereotypes and bias and how those can change interaction partner's responses over time. They studied these processes as a way to understand why anxiety is so prevalent and difficult to change in cross-race versus same-race roommate relationships. To study this, same- and mixed-race college roommates participated in a daily diary study, where they reported the extent to

which they felt anxious during interactions with their roommates each day, as well as their desire to continue to live together the following year. Across time, participants with cross-race (but not same-race) roommates' experience of anxiety during an interaction was predicted by both participants' own anxiety *and* their roommate's anxiety during the previous day's interaction. Furthermore, the more that mixed-race roommates experienced anxiety in their daily interactions, the less interested they were in living together the following year. In contrast, the more that same-race roommates experienced anxiety in their daily interactions, the *more* interested they were in living together the following year. These data suggest that participant's racial group membership shaped the way that they interpreted their roommates' expressions of anxiety. For same-race roommates, their shared group membership allowed for a positive interpretation of their partner's anxiety, as indexed by their greater desire for future contact. In contrast, for mixed-race roommates, their differing group memberships colored their perceptions, leading to a negative interpretation of their partner's anxiety, as indexed by their lack of desire for future contact.

Vigilance for detecting bias, combined with Whites' vigilance in trying to appear non-prejudiced, can also impair interaction partners' abilities to attend to and focus on each other in interpersonal interactions. The human mind is limited in its capacity to focus and attend to aspects of the situation and the environment, which includes thoughts about one's own and one's partner's behaviors. For example, for Whites, being concerned with how they are being viewed by a minority interaction partner and attempting to appear non-prejudiced involves extensive self-monitoring, which taxes cognitive resources (Mendes & Koslov, 2012). When resources are taxed, Whites are more likely to display the kinds of anxious nonverbal behaviors described above (Vorauer & Turpie, 2004), a vicious cycle.

In addition, having limited cognitive resources reduces the ability to attend to a partner's subtle, nonverbal displays of emotion and correctly interpret their meaning (i.e., to be *empathically accurate*) because doing so requires complex, deliberative processing (Ickes, 1997). Thus, to the extent to which Whites and minorities are cognitively compromised in interactions with each other, Whites' and minorities' ability to "mind read" during interracial interactions may also be compromised. For example, reading negative intent in ambiguous behaviors can lead to inaccurate judgments of a partner's true feelings – especially if those feelings are actually positive – leading both dyad members to assume a lack of interest in future contact, when that may not be the case (West, Shelton, & Trail, 2009).

Bias beyond the Getting-Acquainted Stage

The effects of implicit bias on interracial interactions extend beyond the getting-acquainted context, where most basic social psychological research has focused. Such consequences become more concerning when we widen our scope to consider fields where inaccurate perceptions and negative interactions can become systemic institutionalized problems, such as in healthcare. Unfortunately, even highly trained practitioners harbor implicit evaluative biases against lower-status racial groups, and their level of bias shapes the course of interactions. For instance, consistent with the literature on everyday encounters, the growing literature on the effects of nonconscious racial attitudes on health practitioners' behaviors has shown that although non-Black (i.e.., White, Asian, Hispanic, Latino) providers generally exhibit relatively low levels of explicit bias, they display substantial implicit racial bias toward Blacks at levels comparable to the general public (Blair et al., 2013; Godsil et al., 2014; Hall et al., 2015). Such implicit bias can affect how physicians communicate important medical information, how they are perceived by Black patients, and the overall quality of healthcare that Blacks receive. For example, White

healthcare providers underestimate the severity of pain experienced by Black patients, resulting in lower dosages of pain-relieving medications and poorer quality care (Trawalter & Hoffman, 2015; Trawalter, Hoffman, & Waytz, 2012; Waytz, Hoffman, & Trawalter, 2014).

Studies examining doctor-patient interactions connect implicit evaluative biases held by doctors to the quality of in-office appointments and subsequent medication adherence (Hagiwara et al, 2013; Penner et al, 2010). For example, when non-Black physicians fit the profile of an aversive racist – i.e., they report explicit egalitarian values but score high on measures of implicit evaluative bias - Black patients report *less* satisfaction with the quality of care immediately after their appointment, and walk away with more negative impressions of the interaction (Penner et al, 2010). In another study, Black patients' lack of trust immediately following the visit with their non-Black physician was associated with reduced medication adherence 16 weeks later (Hagiwara et al, 2013). Recently, Penner et al. (2016) found that non-Black oncologists who were more implicitly biased had significantly shorter interactions and less supportive communication with their Black patients than those who were less biased. Nonconscious bias also indirectly affected patients' own confidence in treatment. The persistence of significant race-based health disparities in the United States makes further research into how we can overcome implicit bias in the healthcare delivery critical.

Conclusion

Hillary Clinton was right: implicit bias exists for everyone. Furthermore, research has documented that implicit bias is not inconsequential—it has strong effects on our behaviors, contributing to important outcomes, such as healthcare delivery. Implicit bias can affect how we behave towards people in ways that we are not even aware of, such as how comfortable we

appear. It is important to keep in mind that it is difficult to call any one instance of behavior an indicator of implicit bias, as this this type of bias is best detected at the aggregate level.

After reading this chapter, you may wonder about your own implicit bias and its influence on your behavior. Although psychologists are still debating how much our measured biases actually influence our discriminatory behavior beyond the subtle interpersonal effects we have discussed here, one thing is clear. Most attempts at reducing implicit bias (in Starbucks or among police officers, or on college campuses) shows that we cannot simply learn our way out of our prejudices. What you've just learned about implicit bias isn't enough to reduce your bias—indeed, some of the research on aversive racism suggests that for some people, mere awareness may increase bias. Thus, when people propose, as Starbucks did, to counter bias with knowledge, even they knew that this was a first step in a much longer process that begins with awareness, but does not end with it. Researchers have been working hard to develop different interventions at reducing the effects of implicit bias on behavior (Kawakami et al, 2007; Lai et al 2014; 2016). Multi-pronged approaches show the most potential for sustained progress (Devine, Forscher, Austin & Cox, 2012), particularly those that aim to reduce the "application" of implicit bias. As some have suggested, perhaps the best strategy is not to try to change implicit bias at the individual level, but rather, to make procedural changes that prevent bias from influencing behaviors. For example, "sticking to the script" while interviewing individuals will can reduce the likelihood that implicit bias shapes how White interviewers behave toward minority job candidates, as does agreeing on fixed rather than malleable criteria for evaluating people. But as noted earlier and as noted in *The Social Animal*, our best seems to be getting people to beyond their natural tribalism and do things like working cooperatively, that helps them see one another as part of a team. This reduces both implicit and explicit bias.

As researchers, our hope is that by understanding the dynamic nature of how implicit biases are expressed and perceived, and becoming aware of how our personal characteristics can influence these processes, we can reduce prejudice—and begin to tame its expression in our social interactions.

References

Apfelbaum, E. P., Norton, M. I., & Sommers, S. R. (2012). Racial color blindness emergence, practice, and implications. *Current Directions in Psychological Science, 21*(3), 205-209. doi:10.1177/0963721411434980

Benkert, R., Peters, R. M., Clark, R., & Keves-Foster, K., (2006). Effects of perceived racism, cultural mistrust and trust in providers on satisfaction with care. J*ournal of the National Medical Association, 98*(9), 1532–1540.

Blair, I. V., Havranek, E. P., Price, D. W., Hanratty, R., Fairclough, D. L., Farley, T…Steiner, J. F. (2013). Assessment of biases against Latinos and African Americans among primary care providers and community members. *American Journal of Public Health, 103,* 92-98. doi: 10.2105/AJPH.2012.300812

McGillicuddy-De, L. A., Daly, M., Neal, A., (2006). Children's distributive justice judgments: aversive racism in Euro-American children? *Child Development, 77*(4), 1063-1080. doi:10.1111/j.1467-8624.2006.00919.x

Dovidio, J. F., Kawakami, K., & Gaertner, S. L., (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology, 82*(1), 62-68. doi:10.1037/0022-3514.82.1.62

Winning, L. (2018). It's time to prioritize diversity across tech. *Forbes.* Retrieved from https://www.forbes.com/sites/lisawinning/2018/03/13/its-time-to-prioritize-diversity-across-tech/#4c14a29b16f8

Greenwald, A.G., Banaji M.R. (1995). Implicit social cognition: attitudes, self-esteem, and stereotypes. Psychology Review, 102(1):4-27. doi:10.1037/0033-295X.102.1.4

Godsil, R. D., Tropp, L. R., Goff, P. A., & Powell, J. A. (2014). *Addressing Implicit Bias, Racial Anxiety, and Stereotype Threat in Education and Health Care*. Berkeley, CA: Perceptions Institute.

Hagiwara, N., Penner, L. A., Gonzalez, R., Eggly, S., Dovidio, J. F., Gaertner, S. L., Albrecht, L. (2013). Racial attitudes, physician-patient talk time ratio, and adherence in racially discordant medical interactions. *Social Science & Medicine, 87*, 123-131. doi: 10.1016/j.socscimed.2013.03.016

Hall, W. J., Chapman, M. V., Lee, K. M., Merino, Y. M., Thomas, T. W., Payne, B. K…Coyne-Beasley, T. (2015). Implicit racial/ethnic bias among health care professionals and its influence on health care outcomes: A systematic review. *American Journal of Public Health, 105,* e60-e76. doi: 10.2105/AJPH.2015.302903

Mapping Police Violence (2015). Unarmed Victims. Retrieved on December 5th from http://mappingpoliceviolence.org/unarmed/

Mendes, W. B., & Koslov, K., (2013). Brittle smiles: Positive biases toward stigmatized and outgroup targets. *Journal of Experimental Psychology: General, 142*(3), 923-933. doi:10.1037/a002966

Penner, L. A., et al. (2016). The effects of oncologist implicit racial bias in racially discordant oncology interactions. *Journal of Clinical Oncology, 34,* 28724-2880.

Reilly, K., (2016, November 13). Racist incidents are up since Donald Trump's election. These are just a few of them. *The New York Times.* Retrieved on December 5th from http://time.com/4569129/racist-anti-semitic-incidents-donald-trump/

Richeson, J. A., & Shelton, J. N., (2005). Brief report: Thin slices of racial bias. *Journal of Nonverbal Behavior, 29*(1), 75-86. doi:10.1007/s10919-004-0890-2

Schuster, M. A., Collins, R., Cunningham, W. E., Morton, S. C., Zierler, S., Wong, M., Tu, W., Kanouse, D. E., (2005). Perceived discrimination in clinical care in a nationally representative sample of HIV-infected adults receiving health care. *Journal of General Internal Medicine, 20*(9), 807–813. doi:10.1111/j.1525-1497.2005.05049.x

Sinclair, S. Dunn, E., Lowery, B. (2005).The relationship between parental racial attitudes and children's implicit prejudice. *Journal of Experimental Social Psychology, 41*(3), 283-289. doi:10.1016/j.jesp.2004.06.003

Sidanius, J., Pratto, F., (1999). *Social Dominance: An Intergroup Theory of Social Hierarchy and Oppression*. Cambridge, Cambridge University Press.

Smedley, B. D., Stith, A. Y., Nelson, A. R., (Eds.). (2003). *Unequal treatment: confronting racial and ethnic disparities in health care.* Washington, DC: The National Academies Press.

Trachtenberg, F., Dugan, E., Hall, M. A., (2005). How patients' trust relates to their involvement in medical care. *Journal of Family Practice, 54*(4), 344–352.

Trawalter, S., Adam, E. K., Chase-Lansdale, P. L., & Richeson, J. A., (2013). Concerns about appearing prejudiced get under the skin: Stress responses to interracial contact in the moment and across time. *Journal of Experimental Social Psychology, 48*(3), 682-693. doi:10.1016/j.jesp.2011.12.003

Toosi, N. R., Babbit, L. G., Ambady, N., Sommers, S. R. (2012). Dyadic interracial interactions: A meta-analysis. *Psychological Bulletin, 138*(1), 1-27. Doi:10.1037/a0025767