THE SCIENCE OF EQUALITY, VOLUME 1:

ADDRESSING IMPLICIT BIAS, RACIAL ANXIETY, AND STEREOTYPE THREAT IN EDUCATION AND HEALTH CARE

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FROM THE AUTHORS

In the late summer of 2014, an unarmed young black man, Michael Brown, was approached by police officers as he walked in the street in Ferguson, Missouri. Five minutes later, he was dead with six gunshots in his body – two to his head. Grief turned to rage in his neighborhood when the mainly white police department responded using military force, and the rage grew more volatile. The Department of Justice is now investigating.

This was not an isolated event this summer. Eric Garner in Staten Island and John Crawford in Ohio were both killed by police. Marlene Pinnock was repeatedly punched in the head by a police officer in Los Angeles. Neither these deaths and assault, nor the impassioned responses, occurred in a vacuum.

This report, released in the fall of 2014, details the social science that can help us understand the day-to-day dynamics of race and how to alter the circumstances that too often culminate in tragedy.

FOREWORD

Last year, we celebrated the 50ᵗʰ anniversary of the March on Washington, honoring the historic struggles for racial equity and justice waged during the Civil Rights Movement. And yet in the last few years, we have seen far too many killings of unarmed black young people rise to the level of national public consciousness, some within the span of just a few months. With each death, we've committed a new name to memory: Jonathan Crawford III in Ohio; Eric Garner in New York; Michael Brown in Ferguson, Missouri; Renisha McBride in Michigan; Trayvon Martin and Jordan Davis in Florida; and Jonathan Ferrell in North Carolina. And the list is growing. With each new name, we've learned their unique personal histories and debated different accounts of what might have happened in each instance. Mostly, we have mourned the eerily familiar similarity in each of their tragic deaths: how black people, particularly men and boys, are perceived is inherently linked to their survival. Perception can mean the difference between life and death.

Even more familiar is the polarized, defensive, and entrenched way in which our racial discourse responds to these losses. Families, friends, and advocates are outrageously put in the position of defending the basic humanity of the victims just to secure the most minimal inquiry into justice that would be so easily afforded to most other Americans. Many others legitimately struggle with racial ambivalence as they reconcile their own experience around race with the alarming patterns of systemic injustice being revealed with such frequency. And predictably, a small but vocal minority will leap to justify the killings and excuse a world in which black men and boys should be feared and assumed criminal until proven otherwise. Our challenge is to find inroads to a meaningful, productive conversation addressing the perceptual challenges black men and boys face – which now often ends before it really gets going.

As tragic as the last few years have been, we have also seen glimmers of hope in the way new thinking and new research, particularly in the mind sciences, have emerged to push our conversations, and indeed our imaginations, beyond the historical frameworks and rigid binaries that limit our understanding of race. The public adoption of seemingly academic ideas like **implicit bias,** embedded stereotypes that heavily influence our decision-making without our conscious knowledge, signifies a willingness to delve deeply into that which makes solving our race challenges seem so intractable. The Perception Institute, a consortium of leading social scientists engaged in the mind sciences, is proud to be a part of a wide community of scholars, advocates, and funders, bringing implicit bias and other ideas into the mainstream. Last year, we released a landmark report, *Transforming Perception,* in which we detailed

how subconscious processes work to reinforce and undergird structural barriers to equality in the criminal justice, education, and health care sectors. *Transforming Perception* was an effort on our part to increase awareness and understanding of how the mind and race interact.

As important as implicit bias is to understanding race and our daily lives, however, at its best, it is a diagnosis of perception. What we desperately need to move forward is a prescription grounded as much in the complexity of the mind as in our historical analysis of structural barriers. Implicit bias and perception are often seen as individual problems when, in fact, they are structural barriers to equality.

The harrowing concentration of lost lives of young black men and boys in the summer of 2014 illustrates the urgency of understanding that the recognition of the pervasiveness of implicit bias is not itself a silver bullet. The Research Advisors to the Perception Institute have been engaged in empirical work identifying effective interventions to reduce bias and as important, identifying related phenomena, racial anxiety and stereotype threat, that must also be addressed to create the equal society we all want to see.

Our response is a new report series: *The Science of Equality.* This series is designed to examine and explain the perceptual distortions that underpin implicit bias and the anxiety that ensues when race is expressly discussed. As we demonstrate in this report, stereotype threat, which causes our cognitive capacities to diminish when we worry that we might confirm a negative stereotype about our identity group, and racial anxiety, where our discomfort around inter-racial interaction causes the very negative experiences we're worried about, are key to addressing a host of racialized harms. Future volumes will address their role in the contexts of the media, politics and policy, employment, and criminal justice.

This first volume of The Science of Equality, *Addressing the Impact of Implicit Bias, Racial Anxiety, and Stereotype Threat in Education and Health Care,* draws on over two hundred studies to describe the operation of implicit bias, racial anxiety, and stereotype threat; to document how students of color are both overdisciplined and given too little feedback on their work in the classroom; to examine how standardized tests lowball the aptitudes and abilities of black and Latino students; and to show how the fact that doctors are far from immune from the kinds of biases and anxieties that affect all of us leads to worse outcomes for African Americans and increased distrust between black patients and white doctors.

We live in a time when discrimination looks less like a segregated lunch counter and more like a teacher never calling on your son or a doctor failing to inspire trust in your daughter and improperly diagnosing her illness as a result. *The Science of Equality, Volume 1* shows the role perception plays in our daily lives from the mundane to the tragic. It's our sincere hope that translating these insights can make the complex science around race and the mind accessible and show how these scientific phenomena affect every sphere of our lives.

Alexis McGill Johnson
Executive Director, Perception Institute

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TWO STORIES

A sixth-grade boy, not too tall with short hair and brown skin, climbs onto the city bus on his way to middle school. He would like to get some reading done before school and sees an open seat near the front of the bus. It would be quieter here than the back where other kids from his neighborhood are talking and joking, but the white lady in the next seat over looks nervous when he moves toward the seat. Never mind. When the bus drops the kids off at school, the security guard makes him empty his pockets and looks in his backpack. Again? He keeps his eyes on the ground, ignoring the other kids streaming past. He is kind of looking forward to Humanities; they are getting back essays on Ancient Egypt, and he worked hard on his. The teacher hands back the essays. An A! But the teacher didn't give any comments or suggestions. He looks at the kid next to him. He got an A, too. Did everyone? Did his work even matter? Science is next. The worst. The teacher never calls on him or any of the other black kids. Today is the end-of-semester test. He studied most of the weekend, but the test is really hard. Finally school is done. His mom is picking him up for his doctor appointment – his asthma has been getting worse. The doctor doesn't ask too many questions, and the appointment is over quickly. No new medicine or anything. The nurse smiles at him and his mom. She looks a little like his aunt. He smiles back.

The doctor welcomes the boy and his mother into her office. This is a first visit, but she sees from the chart that the boy has been getting medication for asthma for several years. She is careful to first talk to the mother. In her recent "cultural competencies" seminar they were taught that with black families it is important to show respect to the parents by mainly addressing them. The visit is fairly short; it doesn't seem like much has changed for the boy. As they leave, the doctor sees the boy smile at the nurse. She is a little surprised. He seemed distant, or at least shy, with her. As the boy and his mother leave the office, the nurse gives her a "look." What did she do this time? The doctor moved to this practice and to the city from the suburbs fairly recently. She feels like she has tried to get along with this nurse. She compliments the nurse on her work, but it seems like she is always saying the wrong thing. Last week she accidently mixed this nurse up with another nurse who is also black. She felt so stupid, they don't really look alike, but all of the other nurses are either white or Latina, and she was moving quickly. Lately, when she goes into the staff room and she sees the two black nurses sitting together, she goes and eats in her office. It is so awkward. And who can she talk to? She could call her friend from medical school who is black, but ….

EXECUTIVE SUMMARY

Most Americans agree that people of all races and ethnicities should be treated respectfully and fairly. Yet we are beset by news reports and personal experiences (like those illustrated above) that tell us that race and ethnicity continue to matter and affect how people are treated and how they interact with each other. The science of "implicit bias" – automatic associations of stereotypes or attitudes about particular groups – has emerged in the public discourse about race and ethnicity and provided a much needed explanation. People can have conscious values that are betrayed by their implicit biases, and implicit biases are often better at predicting discriminatory behavior than people's conscious values and intentions.

But implicit bias alone doesn't explain all of the ways in which racial and ethnic dynamics affect day-to-day life and perpetuate disparities. Racial anxiety and stereotype threat are also critical barriers to fair treatment. They help explain why white doctors may have shorter visits and less eye contact with black or Latino patients, why white teachers may give less critical feedback to black students, and why people of different races and ethnicities sometimes find dealing with each other so challenging that they avoid doing so when they can.

Interventions to deal with implicit bias – which often involve enhancing awareness of racial bias – must also address people's concerns about navigating discussions about race and their anxieties about appearing racist. Otherwise, one racial dynamic may be lessened but another triggered.

This report describes cutting-edge research on implicit bias, racial anxiety, and stereotype threat – and the interventions that help to reduce them and their effects. The reality of implicit bias, racial anxiety, and stereotype threat confirm that race still "matters" – both among people of color whose experiences verify their presence and among many whites who genuinely consider themselves non-racist even if their behavior may sometimes suggest otherwise.

We also recognize that addressing the problem of race at the individual level is not sufficient. But it is necessary. Structural and institutional arrangements are critical, but individuals' behaviors within institutions are also important. In order to challenge structural racialization and inequality in society's institutions and culture, individuals must be equipped to modify patterns of behavior and persuaded to support policies that will do this work.

Below we describe the content of the report and briefly note the key concepts. The body of the report includes detailed discussions of the concepts and the studies that support them. We also include an extensive bibliography at the end of the report for those who are interested in further study.

PART I

Part I describes of the science of **implicit bias,** how it is measured, and its behavioral consequences. Implicit bias refers to the process of associating stereotypes or attitudes toward categories of people without conscious awareness.

♦ *Implicit*: A thought or feeling about which we are unaware or mistaken.

♦ *Bias*: When we have a preference or an aversion toward a person or a category of person as opposed to being neutral, we have a bias.

♦ *Stereotype*: A specific trait or attribute that is associated with a category of person.

♦ *Attitude*: An evaluative feeling toward a category of people or objects – either positive or negative – indicating what we like or dislike.

Implicit Bias Affects Behavior

Implicit biases affect behavior and are far more predictive than self-reported racial attitudes. In this part we describe the studies that have demonstrated links between implicit bias against blacks and a number of critical real-life scenarios, including:

♦ The speed and likelihood of shooting an unarmed person based on race

♦ Employment callbacks relative to equally qualified white applicants

♦ The rate of referring otherwise similar black and white patients with acute coronary symptoms for thrombolysis

♦ Why black defendants with stereotypically black features receive longer sentences, and why stereotypically black defendants are more likely to be sentenced to death in cases involving white victims

PART II

Part II provides a description of **racial anxiety,** how it is experienced by both whites and people of color, and its behavioral consequences.

♦ Racial anxiety is discomfort about the experience and potential consequences of interracial interaction.

♦ People of color can be anxious that they will be the target of discrimination and hostile or distant treatment.

♦ Whites can be anxious that they will be assumed to be racist and, therefore, will be met with distrust or hostility.

People experiencing racial anxiety often engage in less eye contact, have shorter interactions, and generally seem – and feel – awkward. Not surprisingly, if two people are both anxious that an interaction will be negative, it often is. So racial anxiety can result in a negative feedback loop in which each party's fears appear to be confirmed by the behavior of the other.

PART III

Part III describes the science underlying **stereotype threat,** which occurs when a person is concerned that she will confirm a negative stereotype about her group.

♦ Stereotype threat can affect anyone, depending on the prevailing stereotypes in a given context.

♦ Stereotype threat has been most discussed in the context of academic achievement among students of color, and among girls in STEM (science, technology, engineering and math) fields.

♦ Whites can suffer stereotype threat when concerned that they may be perceived as racist.

When people are aware of a negative stereotype about their group in a domain in which they are identified, their attention is split between the activity at hand and concerns about being seen stereotypically.

♦ Research finds that concern about negative stereotypes can trigger physiological changes in the body and the brain, such as:

  ✧ An increased cardiovascular profile of threat and activation of brain regions used in emotion regulation

  ✧ Cognitive reactions (especially a vigilant self–monitoring of performance)

  ✧ Affective responses (especially the suppression of self–doubts)

♦ Stereotype threat diverts cognitive resources that could otherwise be used to maximize task performance.

PART IV

Part IV focuses on the role of racial dynamics in **education** and **health care**. Implicit bias, racial anxiety, and stereotype threat have effects in virtually every important area of our lives. In the report, we illustrate the interrelated implications of the three phenomena in the domains of education and health care. Education and health care are of critical importance for obvious reasons – and a fair amount of research has highlighted the role race plays in unequal outcomes in both domains. The research to date includes the findings highlighted below.

Racial Dynamics in Education

♦ Discipline and suspension disparities were not based upon more severely problematic behavior by black or Latino youth; the greatest racial disparities were in responses to subjective behaviors such as "disrespect" or "loitering."

♦ Conventional measures of academic performance underestimated the ability of members of stereotyped groups by 0.17 standard deviations or 62 points on the SAT. The size of this gap is significant and highly likely to be an underestimation.

♦ Teachers may give students of color too little critical feedback.

Racial Dynamics in Health Care

♦ Physicians were 40% less likely to refer African Americans for cardiac catheterization than whites; the lowest referral rates were for African American women.

♦ Doctors' levels of bias largely mirrored those of the general population, with medical doctors strongly preferring whites over blacks. Doctors in some fields, such as pediatrics, showed less biased behavioral responses to racial difference.

♦ Physicians engaged with patients of color may be less likely to be empathic, to elicit sufficient information, and to encourage patients to participate in medical decision-making.

♦ African American patients have a greater level of distrust toward white counselors in clinical settings, which has serious consequences for mental health care, as well as physical health care.

PART V

Part V describes critical **interventions** that institutions ought to adopt and individuals ought to engage in to respond effectively to the racial dynamics that lead to the harms to targeted groups described above.

"Debiasing" and Preventing Effects of Implicit Bias

The research on reducing implicit bias or "debiasing" is fairly new, however, researchers have conducted recent studies finding some success. Most significantly, Patricia Devine and her colleagues have combined interventions devised by other research and successfully reduced implicit racial bias, as well as increased awareness of personal bias and concern about discrimination. These strategies are listed below.

♦ *Stereotype replacement:* Recognizing that a response is based on stereotypes, labeling the response as stereotypic, and reflecting on why the response occurred creates a process to consider how the biased response could be avoided in the future and replaces it with an unbiased response.

♦ *Counter-stereotypic imaging:* Imagining counter-stereotypic others in detail makes positive exemplars salient and accessible when challenging a stereotype's validity.

♦ *Individuation:* Obtaining specific information about group members prevents stereotypic inferences.

♦ *Perspective taking:* Imagining oneself to be a member of a stereotyped group increases psychological closeness to the stereotyped group, which ameliorates automatic group-based evaluations.

♦ *Increasing opportunities for contact:* Increased contact between groups can reduce implicit bias through a wide variety of mechanisms, including altering their images of the group or by directly improving evaluations of the group.

These data "provide the first evidence that a controlled, randomized intervention can produce enduring reductions in implicit bias." The findings have been replicated and further studies will be in print in 2015.

Preventing Implicit Bias from Affecting Behavior

To the extent that debiasing is an uphill challenge in light of the tenacity of negative stereotypes and attitudes about race, institutions can also establish practices to prevent these biases from seeping into decision-making. Jerry Kang and a group of researchers developed the following list of interventions that have been found to be constructive:

♦ *Doubt objectivity:* Presuming oneself to be objective actually tends to increase the role of implicit bias; teaching people about non-conscious thought processes will lead people to be skeptical of their own objectivity and better able to guard against biased evaluations.

♦ *Increase motivation to be fair:* Internal motivations to be fair, rather than fear of external judgments, tends to decrease biased actions.

♦ *Improve conditions of decision-making:* Implicit biases are a function of automaticity (what Daniel Kahneman refers to as "thinking fast"). "Thinking slow" by engaging in mindful, deliberate processing prevents our implicit biases from kicking in and determining our behaviors.

♦ *Count:* Implicitly biased behavior is best detected by using data to determine whether patterns of behavior are leading to racially disparate outcomes. Once one is aware that decisions or behavior are having disparate outcomes, it is then possible to consider whether the outcomes are linked to bias.

Interventions to Reduce Racial Anxiety

The mechanisms to reduce racial anxiety are related to the reduction of implicit bias – but are not identical. In our view, combining interventions that target both implicit bias and racial anxiety will be vastly more successful than either in isolation.

♦ *Direct intergroup contact:* Direct interaction between members of different racial and ethnic groups can alleviate intergroup anxiety, reduce bias, and promote more positive intergroup attitudes and expectations for future contact.

♦ *Indirect forms of intergroup contact:* When people observe positive interactions between members of their own group and another group (vicarious contact) or become aware that members of their group have friends in another group (extended contact), they report lower bias and anxiety, and more positive intergroup attitudes.

Stereotype Threat Interventions

Most of these interventions were developed in the context of the threat experienced by people of color and women linked to stereotypes of academic capacity and performance, but they may also be translatable to whites who fear confirming the stereotype that they are racist.

♦ *Social belonging intervention:* Providing students with survey results showing that upper-year students of all races felt out of place when they began but that the feeling abated over time has the effect of protecting students of color from assuming that they do not belong on campus due to their race and helping them develop resilience in the face of adversity.

♦ *Wise criticism:* Giving feedback that communicates both high expectations and a confidence that an individual can meet those expectations minimizes uncertainty about whether criticism is a result of racial bias or favor (attributional ambiguity). If the feedback is merely critical, it may be the product of bias; if feedback is merely positive, it may be the product of racial condescension.

♦ *Behavioral scripts:* Setting set forth clear norms of behavior and terms of discussion can reduce racial anxiety and prevent stereotype threat from being triggered.

♦ *Growth mindset:* Teaching people that abilities, including the ability to be racially sensitive, are learnable/incremental, rather than fixed has been useful in the stereotype threat context because it can prevent any particular performance from serving as "stereotype confirming evidence."

♦ *Value-affirmation:* Encouraging students to recall their values and reasons for engaging in a task helps students maintain or increase their resilience in the face of threat.

♦ *Remove triggers of stereotype threat on standardized tests:* Removing questions about race or gender before a test, and moving them to after a test, has been shown to decrease threat and increase test scores for members of stereotyped groups.

Interventions in Context

The fundamental premise of this report is that institutions seeking to alter racially disparate outcomes must be aware of the array of psychological phenomena that may be contributing to those outcomes. We seek to contribute to that work by summarizing important research on implicit bias that employs strategies of debiasing and preventing bias from affecting behavior. We also seek to encourage institutions to look beyond **implicit bias alone,** and recognize that **racial anxiety** and **stereotype threat** are also often obstacles to racially equal outcomes. We recommend that institutions work with social scientists to evaluate and determine where in the institution's operations race may be coming into play.

CONCLUSION

The conclusion describes the **conditions** required for transformative change. Social science described in this report helps people understand why interracial dynamics can be so complicated and challenging despite our best intentions. The interventions suggested by the research can be of value to institutions and individuals seeking to align their behavior with their ideals. Yet for lasting change to occur, the broader culture, and ultimately our opportunity structures also need to change for our society to meet its aspirations of fairness and equal opportunity regardless of race and ethnicity.

INTRODUCTION

During the late summer of 2014, as this report was being finalized, Eric Garner in Staten Island, New York, and Michael Brown in Ferguson, Missouri, were both killed by police officers under circumstances in which race seemed to drive behavior. On August 7, 2014, the second-degree murder verdict was announced against Theodore Wafer, who killed the unarmed Renisha McBride when she sought help at his home after a car accident in 2013. During the trial, Wafer testified that he grabbed his 2-gauge shotgun because he feared for his life. He said he "just reacted" (Bosman, 2014) when he shot her in the face through the door, causing her immediate death. While we cannot know with certainty whether Wafer would have had the same reaction had McBride been white, it seems unlikely. Few are of the view that Eric Garner's and Michael Brown's fates would have been the same had they been white. These tragedies do not occur in isolation. They are accompanied by daily instances in which racial or ethnic difference come into play. And yet most Americans espouse values of racial fairness.

Recent advances in neuroscience, social psychology, and other "mind sciences" have provided insight into otherwise confounding contradictions between our stated values and behaviors and outcomes. Advocates and "race talkers" (media pundits who focus on race) have been particularly interested in social psychological research focusing on "implicit bias" – the automatic association of stereotypes or attitudes with particular social groups (Banaji & Greenwald, 2013; Dovidio & Gaertner, 2004; Kirwan Institute, 2013).

Understanding implicit bias can help explain why a black criminal defendant charged with the same crime as a white defendant may receive a more draconian sentence (Mustard, 2001), or why a resume from someone named Emily will receive more callbacks than an otherwise identical resume from someone named Lakeisha (Bertrand & Mullainathan, 2004; Rooth, 2010). Implicit bias can also help explain why the number of tragic deaths linked to race keeps growing.

The dangers posed by and prevalence of implicit biases – coupled with the growing body of research supporting the link between biases and behaviors (Devine, 1989; Kang & Lane, 2010) – have led institutions such as judges' associations, police departments, law firms, corporations, school districts, and city governments to begin to engage in efforts to address the effects of implicit bias. This work confirms that people of color whose experiences of the world make abundantly clear that "race matters" are not simply oversensitive, while also explaining how whites who consider themselves non-racist may be sincere, even if their behavior sometimes suggests otherwise. Each

of the authors has been working with such institutions to devise training programs and address the racial dynamics that are undermining fairness and equal treatment.

This is not meant to suggest that racialized outcomes are only a result of individual actions; cumulative racial advantages for whites as a group have been embedded into society's structures and institutions (powell, 2012). As Grant-Thomas & powell (2014) argue: "a society marked by highly interdependent opportunity structures and large inter-institutional resource disparities will likely be very unequal with respect to the outcomes governed by those institutions and opportunity structures." Today's structural conditions are a result of racial advantages and disadvantages accumulated during times of overt white supremacy, and these dynamics have proved "very durable indeed" (Grant-Thomas & powell, 2014).

However, there are two key reasons why structural racism cannot be successfully challenged without an understanding of how race operates psychologically. First, public policy choices are often affected by implicit bias or other racialized phenomena that operate implicitly (powell & Godsil, 2014). As a result, the changes in policy necessary to address institutional structures are dependent upon successfully addressing implicit biases that can affect political choices. Second, institutional operations invariably involve human behavior and interaction; any policies to address racial inequities in schools, work places, police departments, court houses, government offices, and the like will only be successful if the people implementing the policy changes comply with them (Grant-Thomas & powell, 2014).

> Research suggests that some forms of anti-bias education may have detrimental effects if they increase bias awareness without also providing skills for managing anxiety.

Although implicit phenomena have the potential to impede successful institutional change, implicit racial bias is not the only psychological phenomenon that blocks society from achieving racial equality. We risk being myopic if we focus only on people's cognitive processing. Our experiences, motivations, and emotions are also integral to how we navigate racial interactions (Tropp & Mallett, 2011).

Not surprisingly, then, implicit bias cannot explain all racial dynamics. Racial anxiety and stereotype threat also create obstacles for institutions and individuals seeking to adhere to antiracist practices (Tropp & Molina, 2012; Steele & Aronson, 1995; Goff et al., 2008).

Racial anxiety refers to discomfort about the experience and potential consequences of interracial interactions (Stephan & Stephan, 1985).[1] People of color may experience racial anxiety that they will be the target of discrimination and hostile or distant treatment. White people tend to experience anxiety that they will be assumed to be racist and will be met with distrust or hostility (Devine & Vasquez, 1998). Whites experiencing racial anxiety can seem awkward and maintain less eye contact with

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1 This definition of racial anxiety is distinct from what social scientists refer to as "racial threat," which includes the anger, frustration, uncertainty, feelings of deprivation, and other emotions associated with concern over loss of resources or dominance (for example, see Stephan et al., 2002).

people of color, and ultimately, these interactions tend to be shorter than those without anxiety (Shelton & Richeson, 2006). If two people are both anxious that an interaction will be negative, it often is. So racial anxiety can result in a negative feedback loop in which each party's fears seem to be confirmed by the behavior of the other.

Stereotype threat refers to the pressure that people feel when they fear that their performance may confirm a negative stereotype about their group (Steele & Aronson, 1995). This pressure is experienced as a distraction that interferes with intellectual functioning. Although stereotype threat can affect anyone, it has been most discussed in the context of academic achievement among students of color, and among girls in STEM fields (Steele, 2010). Less commonly explored is the idea that whites can suffer stereotype threat when concerned that they may be perceived as racist (Goff et al., 2008). In the former context, the threat prevents students from performing as well as they ought, and so they themselves suffer the consequences of this phenomenon. Stereotype threat among whites, by contrast, often causes behavior that harms others – usually the very people they are worried about. Concern about being perceived as racist explains, for example, why some white teachers, professors, and supervisors give less critical feedback to black students and employees than to white ones (Harber et al., 2012) and why white peer advisors may fail to warn a black student but will warn a white or Asian student that a certain course load is unmanageable (Crosby & Monin, 2007).

In other words, cognitive depletion or interference caused by stereotype threat can affect how one's own capacity, such as the ability to achieve academically, will be judged; this causes first-party harm to the individual, whose performance suffers. However, as is explored in more detail below, stereotype threat about how one's char– acter will be judged (e.g., being labeled a racist), can cause third-party harms when experienced by an individual in a position of power.

Social science research in this context is valuable because it contributes to our understanding of otherwise confounding racial dynamics in the face of egalitarian values. Crucially, social scientists have also begun to identify interventions that have shown success in preventing the behavioral effects of implicit bias, racial anxiety, and stereotype threat. This report summarizes the cutting–edge research explaining these phenomena and identifies best practices for institutions, policy makers, and individuals working toward racial equality.

PART I
THE OPERATION OF IMPLICIT BIAS

Most whites, believing themselves to be non-racist, reasonably conclude that race has diminished in significance – and high-profile examples such as the race of the President confirm this belief. Yet people of color – particularly black people – often have a significantly different perception of the degree to which race affects their lives and opportunities. In a 2013 Gallup poll, 68% of African Americans and 40% of Hispanics stated that the American justice system is biased against black people, compared to only 25% of non-Hispanic whites (Newport, 2014). The mind sciences provide an explanation for both sets of beliefs – white people's belief that they and most other whites are not "racist" and the belief of African Americans and Latinos that America continues to be biased.

A. AUTOMATIC PROCESSING OF STIMULI INTO CATEGORIES

It is well-recognized that human beings process the enormous amount of stimuli we encounter by ordering the environment through the use of categories ("schemas") and automatic associations between concepts that share related characteristics (Tajfel & Forgas, 1981). This automatic ordering is a critical human function that makes processing of information more efficient and guides our reactions and behaviors in relation to our environment. Classes of stimuli are not static; we construct new schema as our environment changes. In the 21st century, for example, the category of "cell phone" allows us to respond appropriately to a small metal object emitting some sort of noise – a category which did not exist throughout most of the 20th century.

Just as categories can determine how we respond to objects, the construction of categories for people is the foundation for everyday social interaction. For example, kindergarten teachers automatically categorize people in their classroom on the first day of school into student and family member. The association of characteristics with the categories of "child" and "adult" makes this task instantaneous. Children quickly learn to respond automatically with polite attention to the person categorized as their teacher and to be extra quiet when the person called "Principal" walks into the class-room. The categories "student," "teacher," and "principal" perform important social functions that allow the school to function smoothly.

We often also associate an attitude – an evaluative valence – with a category (Eagly & Chaiken, 1993). For example, people may generally share the association of certain attributes with the category "teacher" – those who teach in schools – but hold quite different valences (warm feelings or cold feelings) toward teachers.

The automatic association of characteristics and valences with social categories performs an important social function, allowing us to respond appropriately to people fitting the definitional categories. However, social categories can be laden with definitional characteristics that are not neutral. For example, in the 19th and early 20th centuries, the category "Irish" was associated with images of drunkenness and criminality – "stereotypes" (generalizations) which were far from neutral or definitional (Ignatiev, 2008). Although these stereotypes no longer have a hold on the culture, stereotypes about other racial and ethnic groups have proved more intractable. Stereotypes associating blacks, and to some degree Latinos, with violence, criminality, and poverty have been and continue to be constant in the media, even as these stereotypes are outwardly rejected (Bobo, 2001; Eberhardt et al., 2004; Dixon, 2009).

> Stereotypes associating blacks, and to some degree Latinos, with violence, criminality, and poverty continue to be constant in the media, even as these stereotypes are outwardly rejected.

In other words, relatively few people in U.S. society today believe consciously – i.e., explicitly – that all people who are black and Latino are poor and prone to criminality. Many more people, however, hold automatic associations of those tendencies when they see someone who they identify as black or Latino. Regular exposure to such representations in the media can result in inaccurate and hostile associations toward people who fit into those social categories.

Although many social categories are subject to stereotypes and negative attitudes, in this report we focus on implicit associations with currently stigmatized racial and ethnic groups. In this context, implicit racial biases can be understood to include automatic stereotypes and attitudes that result from repeated exposures to cultural stereotypes of different racial groups that pervade society (Richardson & Goff, 2012).

B. MEASURES OF BIAS

Social scientists have developed an increasingly sophisticated array of mechanisms for identifying and measuring the presence of automatic stereotypes and attitudes we consciously deny, or which fall beyond our conscious awarness.

The Implicit Association Test (IAT), developed by Anthony Greenwald and housed at Harvard's ProjectImplicit.org, is one well-known measure (Greenwald & Banaji, 1995). The IAT measures whether there is a time difference between a person's ability to associate a particular social category with concepts that reflect either stereotypes or attitudes. For example, the attitude-based race IAT measures the latency between a person's association of black or white faces with "good" words (positive valence) and "bad" words (negative valence). While considered a reliable measure, the IAT is not akin to a DNA test – it is not a precise and entirely stable measure of bias in any single individual; rather it reveals patterns and tendencies among large groups of

people (Kang et al., 2010) and therefore can explain statistically significant differences in decision-making and treatment linked to race and other salient factors (Banaji & Greenwald, 2013).

Scientists are also beginning to use physiological tools to measure implicit responses to race, including functional Magnetic Resonance Imaging (fMRI) (Phelps et al., 2000), patterns of cardiovascular responses (Blascovich et al., 2001); facial electromyography (EMG) (Vanman et al., 2004), and cortisol responses (Page-Gould et al., 2008). These physiological tools provide additional insight into our reactions to race and ethnicity. For example, neuroscientists are using fMRI analysis to detect both the presence of implicit racial bias and the brain activity that occurs when a person is trying to control bias (Gilbert et al., 2012; Ochsner & Gross, 2008). The study by Gilbert et al. (2012) shows, for example, that two distinct aspects of racial bias – implicit stereotyping and implicit evaluation or attitude – are mediated by different brain mechanisms.

> Scientists are also beginning to use physiological tools to measure implicit responses to race.

C. IN-GROUP PREFERENCE VS. OUT-GROUP ANIMUS

Implicit bias is a result of the automatic, unconscious association of attributes with different groups, but at an explicit or implicit level, bias can also manifest as a result of comparatively positive preferences for one group over another. Social scientists refer to this phenomenon as "in-group" bias or preference (Brewer, 1999; Tropp & Molina, 2012). In-group bias is more likely to be explicit than is animus, but it can often be implicit as well. Whites who hold explicit in-group preference will rarely interpret their feelings as "racist" if they do not involve active animus against people of other races. Yet, when biases and preferences become translated into behavior, the result is the same: members of one racial group benefit relative to members of another.

Although we tend to think of racial discrimination primarily as treating a person or a group worse, treating a favored racial group better results in the same outcome (Reskin, 2000). For example, studies have shown that whites generally will not overtly rate blacks negatively – they will simply rate similarly situated whites more positively (Dovidio & Gaertner, 2004). Obviously, to the extent these biased evaluations and preferences have tangible implications in real-world contexts, they matter.

Contrary to popular belief, in-group bias is not static, and not all "groups" feel or show the same degree of in-group bias. It depends upon the dynamics of a particular culture. For example, whites in our society tend to show a greater degree of in-group bias than blacks or members of other races (Dovidio & Gaertner, 2004). In-group bias is also most prevalent when in-group members perceive a threat to resources that benefit the in-group, (Riek et al., 2006) or norms that legitimize the status quo (Tropp & Molina, 2012; Sidanius et al., 1996).

It is also important to note that not everyone who fits within any particular group holds biases or preferences favoring that group. We all have many identity groups

to which we belong, and the salience of these identity groups differs across individuals and within varying contexts. For example, a white American may feel more "in-group" preference toward a black American than toward other white people when both are in France.

When people experience in-group bias, they tend to be more "comfortable with, have more trust in, hold more positive views of, and feel more obligated to members of their own group" (Reskin, 2000). In the context of in-group bias linked to race, researchers have found that people may try to avoid out-group members – an avoidance which often leads to distortions in perception and bias in evaluation of in-group and out-group members which results in discrimination (Reskin, 2000; see also Brewer & Brown, 1998).

Additionally, in-group bias leads people to feel more empathy toward members of their own group (Chiao et al., 2009; Xu et al., 2009). This finding has been documented using fMRI studies measuring the level of activity in the amygdala (an area of the brain that mediates pain) and the perception of the pain experienced by others. In the 2009 Xu et al. study, researchers showed participants video clips of faces contorted to reflect the experience of pain. When participants viewed pictures of in-group members experiencing pain, the fMRI documented high activity levels in the relevant brain region, but the activity level dropped when in-group members viewed clips of out-group members experiencing pain (Xu et al., 2009).

A similar study used transcranial magnetic stimulation (TMS) to measure corticospinal activity level in participants who were shown short video clips of a needle entering into the hand of either a white or black target (Avenanti et al., 2010). As with the 2009 fMRI study, researchers here found that region-specific brain activity levels are higher when a white participant views the clip of a white target experiencing pain than when a white participant sees a clip of a black target experiencing pain.

> Researchers have concluded that the increased empathy that many whites show for other whites is culturally learned rather than inborn.

The neural reaction is not inherent or universal. Because it differs depending up on the relative status of and relationships between different racial groups, researchers have concluded that this neurological response is culturally learned rather than inborn (Avenanti et al., 2010). The authors conclude that this research "uncover[s] neural mechanisms of an empathic bias toward racial in-group members" which serve as a basis for understanding social behaviors and that "lead some people to provide more help to racial in-group than out-group members" (Avenanti et al., 2010).

The combination of implicit negative associations with minority groups and in-group preferences among whites appears to result from of our country's hardened racial categories and pervasive racialized associations. These interrelated phenomena have effects in important life domains, including criminal justice, employment, education, and health treatment. It cannot always be determined whether a

particular disparate effect is a result of a negative view toward one racial group or an in-group preference toward the dominant group, but the combined results of the two are profound.

D. BEHAVIORS LINKED TO IMPLICIT BIAS

The effects of implicit bias are not limited to the unconscious mind. Researchers have amassed powerful evidence that implicit bias (both negative bias toward people of color and positive bias toward whites) does not simply remain in the unconscious, but translates into a wide range of behaviors that have significant effects. In other words, those with negative implicit racial attitudes or who automatically stereotype display behavior consistent with those attitudes (McConnell & Leibold, 2001).

FIGURE 1. SAMPLE FACIAL EXPRESSION TEST

This behavior ranges from perceiving facial expressions differently to offering job callbacks at different rates to seeing guns more quickly in relation to some racial groups relative to others. Specifically, in studies of facial expressions, whites with stronger implicit racial bias perceive black faces as angrier than whites with weaker levels of bias; similarly, those with stronger implicit bias are apt to consider an expression happy or neutral if displayed by a white person, but neutral or angry if displayed by a black person (Hugenberg & Bodenhausen, 2003).

And in a multitude of experiments in which participants are directed to "shoot" video images of people with a gun as quickly and accurately as possible, those with higher implicit bias levels shoot black targets holding guns faster and more accurately than white targets holding guns (Payne et al., 2005; Payne, 2001; Correll et al., 2002; Correll et al., 2007). Implicit bias manifests itself in real-world decisions as well as laboratory experiments (Greenwald et al., 2009). Field studies demonstrate that black and Latino job applicants are significantly less likely to receive callbacks than are equally qualified white applicants (Pager et al., 2009). Particularly disturbing was the finding that black defendants who have stereotypically black features serve up to eight months longer and that such defendants are more likely to be sentenced to death in cases involving white victims (Eberhardt et al., 2006).

The adverse effects of implicit bias also carry beyond black–white relations. Indeed, implicit bias research has shown broad implications of such bias against a wide range of groups. For example, implicit negative associations toward Asian Americans has been linked to less positive assessments of the competence of Asian Americans as litigators (Kang et al., 2010), resistance to hiring Asian American candidates for national security jobs, and rejecting progressive immigration policies if proposed by Asian Americans (Yogeeswaran & Dasgupta, 2010).

Researchers have realized for decades that negative and positive attitudes are often reflected in our nonverbal behaviors (Word et al., 1974). Most of us know intuitively that nonverbal behaviors – including degree of interpersonal distance, eye contact, and other behaviors – determine whether we read someone as friendly and open or as hostile and closed (Dovidio et al., 2002), and when what people say appears to contradict how they say it, we are unlikely to believe the words we hear. For example, we may be inclined to question the veracity of someone who says, "I am so happy to see you," when this is uttered with no eye contact and pursed lips. As such, research finds that implicit attitudes predict people's nonverbal behaviors, while explicit attitudes predict the content of peoples' words; moreover, when there are discrepancies between them, we may be more likely to attune to others in relation to their nonverbal behaviors, where implicit biases are more likely to be revealed (Dovidio et al., 2002). In research studies mimicking job interviews, Word et al. (1974) found that whites showed more positive nonverbal behaviors toward other whites than toward black candidates, such as sitting closer to them; at the same time, whites spent 25% less time with black candidates and had higher rates of speech errors with them than with white candidates (Word et al., 1974).

Implicit bias often receives attention when tragedies strike, but it is replicated in everyday micro-behaviors demonstrating that race affects social perception – such as the clutched purse when a black man enters the elevator, the assumption that a black lawyer works in the mail room or as a secretary, the query about whether a Latino or Asian American speaks English, or the question "Where are you really from?" asked of fellow citizens from different racial and ethnic groups. People can consciously reject negative stereotypes or attitudes in relation to different groups, but those negative stereotypes or attitudes can still be triggered automatically or "implicitly."

Addressing implicit bias is clearly a crucial step. Yet researchers warn that those who make an effort to reduce bias and inhibit the automatic activation of negative attitudes and stereotypes must be mindful of the potential for "rebound effects" (Dovidio et al., 2008) that trigger racial anxiety or stereotype threat.

PART II
RACIAL ANXIETY

Racial anxiety can be acute, experienced as physiological threat (Blascovich et al., 2001; Page-Gould et al., 2008) and cognitive depletion (Richeson & Shelton, 2003; Richeson et al., 2003; Richeson & Shelton, 2007) in anticipation of and following an interracial interaction. When people experience the physical symptoms of anxiety during a cross-racial interaction, they often distance themselves, are less apt to share eye contact, and use a less friendly and engaging verbal tone – behaviors which can obviously undermine an interaction (Dovidio et al., 2002).

Racial anxiety matters on multiple levels, and its effects can spill over into virtually every important life domain. Members of both racial minority and majority groups may experience racial anxiety and its concomitant discomfort in cross-race interactions; moreover, members of racial minority groups may be subject to adverse effects of the racial anxiety among members of the dominant group with whom they interact. Given that white people continue to be overrepresented in positions of greater power, their anxiety can have significant consequences for members of other racial and ethnic groups. What this means is, for example, a black patient may suffer the effects of her own experience of interracial anxiety with a white doctor, but may also suffer the effects of the doctor's anxiety. As a result, it is in everyone's interest to identify and address the effects of racial anxiety.

A. INTERGROUP ANXIETY AS AN EVERYDAY OBSTACLE

Beginning in the 1980s with work by Walter and Cookie Stephan (Stephan & Stephan, 1984, 1985), social scientists have developed a robust literature addressing the fact that people often feel more anxious when interacting with "out-group" members than with "in-group" members. In a review of the literature, Tropp and Page-Gould (2014) explain that this observation has been replicated with a "host of convergent measures of anxiety, ranging from self-reported anxiety (Britt et al., 1996; Stephan & Stephan, 1985) to anxious behaviors (Dovidio et al., 2006; Dovidio et al., 2002) and physiological stress responses" (Amodio, 2009; Mendes et al., 2007; Page-Gould et al., 2008, Tropp & Page-Gould, 2014). Although the studies are not limited to race as the source of stigma (Blascovich et al., 2001), we are particularly interested in the application of this research to racial dynamics because race – and specifically relations between whites and African Americans – has represented such a salient divide in the United States.

Who Experiences Racial Anxiety

Racial anxiety, like implicit bias, is common, but not experienced by everyone. Some people may be more susceptible to experiencing racial anxiety, and it may have different underlying causes for the people who do experience it. For some, bias or prejudice is the source of the racial anxiety (Page-Gould et al., 2008; Stephan & Stephan, 1985). However, for others, it is the concern that the interracial interaction will not go well – rather than bias – that causes the racial anxiety (Tropp & Page-Gould, 2014; Trawalter et al., 2009). As we will discuss below in the interventions section, it is important to know the source of the anxiety to know how best to ameliorate it.

Other research emphasizes the role of both actual and perceived psychological threat as fundamental components of intergroup anxiety (Stephan & Stephan, 2000; Tropp & Page-Gould, 2014). This model when applied to race can be applicable both to whites as the dominant group and people of color as stigmatized groups. Among many whites, racial or ethnic prejudice predicts anxiety. These whites are more likely to perceive interactions with people of color as demanding (Dovidio et al., 2002; Trawalter et al., 2009), and they are worried about how they will be seen during the interactions (Amodio, 2009; Vorauer, 2006; Vorauer & Kumhyr, 2001; Vorauer et al., 2000). In a set of intriguing studies, prejudiced whites were actually likely to spend more cognitive resources trying to make the interaction go smoothly (Richeson & Shelton, 2003; Richeson et al., 2003; Richeson & Shelton, 2007). People with little prior contact with out-group members have also been found to react viscerally and more negatively to cross-group interactions (Blascovich et al., 2001; Mendes et al., 2002).

On average, people of color have more contact with whites and, as a result, may feel a greater sense of efficacy about interacting with whites (Doerr et al., 2011). Nonetheless, they may still experience anxiety when they expect to be rejected on the basis of race or ethnicity (Mendoza-Denton et al., 2006; Page-Gould et al., 2008; Pinel, 1999; Stephan & Stephan, 1989; Tropp, 2003).

Some may find it surprising that whites may experience "racial anxiety" given the continued dominance of whites generally – but in light of the importance of the prevailing social norm of egalitarianism, many whites truly fear being perceived as racist. Racial anxiety is more likely when whites are externally motivated not to appear racist than whites who are internally motivated by egalitarianism (Plant et al., 2008). In other words, we can be focused on not being racist – or focused on whether other people see us as racist. The latter can translate into the phenomenon of stereotype threat described in the next part of the report.

> In light of the importance of the prevailing social norm of egalitarianism, many whites truly fear being perceived as racist.

B. ANXIETY FEEDBACK LOOPS IN INTERACTION

People who are experiencing racial anxiety exhibit some of the same behaviors as those who have implicit bias – even though, as discussed above, the source may be different. Researchers have found that people who feel anxious during interactions with people of other races or ethnicities are less likely to seek out or engage in subsequent interactions (Butz & Plant, 2011; Dovidio et al., 2006; Plant & Butz, 2006; Plant & Devine, 2003; Tropp, 2003). A negative experience with someone of another race or ethnicity can trigger a negative feedback loop where the experience of racial anxiety predicts fewer and lower-quality interactions with other racial and ethnic groups in the future (Paolini et al., 2006; Tropp & Page-Gould, 2014). This negative feedback loop creates a barrier to effective interracial contact because people with limited contact experience are more likely to have awkward or negative interactions (Blascovich et al., 2001) and so will be more motivated to avoid future contact.

Conversely, prior positive interracial contact can have a wide range of positive consequences, including improved interracial attitudes, more successful interracial interactions, and following from these, more positive inclinations toward future interracial interactions (Levin et al., 2003; Swart et al., 2011; Tropp, 2003). Importantly, prior positive experiences with people of other races or ethnicities can reduce the effects of later negative experience (Paolini et al., 2014). These positive interactions also translate into greater resilience when a later interracial experience is stressful (Page-Gould et al., 2010).

The positive effects of interracial or ethnic contacts may not occur immediately, particularly among strangers after a single brief meeting (Page-Gould et al., 2008; Tropp & Page-Gould, 2014). Rather, these effects generally develop over time (Page-Gould et al., 2008). In other words, people become more comfortable and experience less racial anxiety if they have repeated interactions with members of other groups rather than meeting just once. Indeed, even people with high levels of implicit bias who showed physiological signs of stress during a first interracial interaction showed fewer signs of stress in a second meeting, and by the third meeting showed no more stress than they would have with a person of the same race (Page-Gould et al., 2008). Stress levels during interracial experiences are important because they make that particular interaction more successful – but also because the lower stress level of one interracial interaction has been shown to make later interracial experiences more positive (Page-Gould et al., 2010).

> As a result of "pluralistic ignorance," whites and people of color are apt to behave in ways that confirm the other's fears.

C. DISTINGUISHING EFFECTS OF RACIAL ANXIETY AND BIAS

When we experience racial anxiety, we may not recognize it – and we are even less likely to recognize that the person with whom we are interacting may be experiencing it as well. Thus, as a result of "pluralistic ignorance," whites and people of

color are apt to behave in ways that confirm the other's fears – failing to initiate contact through open body language, eye contact, and other non-verbal signals of welcoming interaction (Shelton & Richeson, 2005). The absence of this kind of body language makes both people appear unfriendly or unwelcoming. In sum, racial anxiety begets more racial anxiety.

Pluralistic ignorance occurs when "people observe others behaving similarly to themselves but believe that the same behaviors reflect different feelings and beliefs" (Shelton & Richeson, 2005). Shelton and Richeson have concluded that both whites and blacks report interest in contact with one another, but both believe the other group will have little interest in interaction with them (Shelton & Richeson, 2005). The studies confirmed that both attributed their own lack of action to engage in interracial contact to be a fear of rejection, but presume that inaction by the member of the other racial group reflects lack of interest.

These tendencies are particularly acute in the context of race. Because of continued patterns of segregation, people are particularly likely to generalize from a single act committed by an individual member of a different race to the larger racial group to which that individual belongs. For instance, a white person who does not feel welcome to sit at a table with a black person may generalize this experience into a broad conclusion that black people as a group are not interested in interacting with whites. Similarly, a black person who observed the white person walking by the open seat at the table will conclude that whites as a group are not interested in interacting with black people.

Such interactional dynamics may seem trivial when compared to structural challenges, but they are crucially important in our day-to-day experiences, including interactions with teachers, employers, and health care providers.

PART III
STEREOTYPE THREAT

Stereotype threat can be triggered whenever a person is concerned that their actions or performance may confirm a negative stereotype about their group. The term is most often used in the context of stereotypes about abilities or capacities – verbal acuity, math or science proficiency, or athletic skills – but stereotypes can also involve assumptions about character traits about a particular group: the Irish as garrulous and prone to drink too much; Asian Americans as studious and anti-social; whites as racist. This section will discuss the implications of both types of stereotype threat and the behavioral effects when a person is subject to stereotype threat.

A. ABILITY-RELEVANT STEREOTYPE THREAT

Stereotype threat is most often examined as the fear of confirming a stereotype that one's group is less able than other groups to perform a valued activity. Most stereotype threat studies in the United States have focused on the effects of stereotype threat in academic settings for at-risk groups – including women in the STEM fields and black and Latino students more generally (Spencer et al., 1999; Walton et al., 2013). Stereotype threat for black and Latino students has been identified as "the norm in academic environments" (Walton et al., 2013). A recent meta-analysis concluded that stereotype threat accounts for a substantial proportion of racial achievement gaps (Walton & Spencer, 2009).

In early studies of stereotype threat in the context of race, Steele and Aronson (1995) administered a test to black and white Stanford students, which was composed mainly of questions from the Graduate Record Examination (GRE). The students were instructed to complete the test under one of two different conditions. In the "threat" condition, students were told that their performance on the test would be diagnostic of their intellectual ability, an instruction that activated a negative stereotype of intellectual inferiority; in the "no threat" condition, the test was characterized as a mere problem-solving task that was not intended to evaluate their intellectual ability. Under the "threat" condition, black students performed substantially worse than white students, but under the "no threat" condition, black students' performance improved significantly, virtually eliminating the racial gap between black and white students (Steele & Aronson, 1995).

Steele and Aronson concluded that when the test was represented as evaluative of ability, which is how most tests are represented and understood, black students became anxious that a poor performance could seem to confirm the negative stereotype of intellectual inferiority, and in turn, this anxiety disrupted their test

performance. But when the test was presented in the "no threat" condition, the instructions made negative intellectual stereotypes less relevant, and black students' performance improved dramatically.

This basic research finding has been replicated in hundreds of studies (Brown & Day, 2006). When people are aware of a negative stereotype about their group, their attention is split between the test at hand and worries about being seen stereotypically. Anxiety about confirming negative stereotypes can trigger physiological changes in the body and the brain (especially an increased cardiovascular profile of threat and activation of brain regions used in emotion regulation), cognitive reactions (especially a vigilant self-monitoring of performance), and affective responses (especially the suppression of self-doubts). These effects all divert cognitive resources that could otherwise be used to maximize task performance (Schmader & Johns, 2003).

B. CHARACTER-RELEVANT STEREOTYPE THREAT

Not all stereotypes involve the presumption that a group is less able to perform well on a certain task. In addition to being seen as competent, most of us also care about whether we are seen as adhering to prevailing morals or norms. Under prevailing moral norms, to be racist is to be immoral, and many white people are concerned that they may be presumed to be prejudiced or racist (Plant & Devine, 1998; Zurwink et al., 1996; Goff et al., 2008). An important question is whether the concern that one may be seen as racist leads to an internal desire to avoid racist behavior or to a motivation to avoid being perceived as racist.

Researchers sought to test the effect of this concern – and how it translates into behavior. Building on earlier research showing that in mock interviews whites tended to sit farther away from black than from white job interviewees (Word et al., 1974), Goff et al. (2008) engaged in a series of experiments to investigate whether whites' fear of being stereotyped as racially prejudiced by a black conversation partner might lead them to physically distance themselves from their partner. The researchers hypothesized that the possibility of a racially tense conversation would trigger stereotype threat in white participants, which in turn would lead them to physically distance themselves from the black partners. The study confirmed that participants who were assigned to talk about racial profiling with two black men distanced themselves more from their partners than if they were talking to other whites or about less charged topics (Goff et al., 2008). The study also showed that white participants sat farther away from black partners than from white ones when they were expected to discuss their own views about racial profiling but did not do so when openly assigned an opinion (where they would not be perceived as discussing their own views). Importantly, the white participants' levels of implicit bias did not predict whether they would sit farther away from the black conversation partners; rather, their levels of concern about being seen as racist predicted their actions (Goff et al., 2008).

The researchers also sought to determine whether the white participants were conscious of the stereotype threat when they had been informed that they would be discussing racial profiling with a black conversation partner. They found that 27%

of the participants openly showed stereotype threat–relevant thoughts. Examples of stereotype threat–relevant thought listings included statements such as the following (Goff et al., 2008):

> *"I feel awkward knowing that I, a white person, will be talking to a black man about racial profiling"; "I hope it doesn't affect my conversation on the subject that the other person is of a different race, though I don't imagine it would"; "My first thought when I saw 'racial profiling' as a topic, and my partner was of a different ethnicity was that I might want to be cognizant of this and be somewhat careful in my remarks"; and "Oh shit, this guy is black!"*

As discussed above, distancing behavior – like other nonverbal behavior – has an effect on those who experience it. In the work by Word et al. (1974), researchers found that people who are subject to distancing and other nonverbal behaviors tend to reciprocate with similar behavior. Indeed, these researchers found that the black candidates in the distancing condition responded in kind and, as a result, were rated as significantly less adequate for the job, as well as less calm and composed (Word et al., 1974).

PART IV
EXAMPLES OF EFFECTS OF IMPLICIT BIAS, RACIAL ANXIETY, AND STEREOTYPE THREAT

Implicit bias, racial anxiety, and stereotype threat have effects in virtually every important area of life. In this part, we focus on the interrelated implications of these phenomena in two areas of critical importance: education and health care. Clearly not all of the disparities in education and health outcomes are attributable to individual actions that may be impacted by implicit bias, racial anxiety, or stereotype threat; there are broader structural issues at play as well. But as the political struggle to address structural inequities continues, institutions can and should adopt practices that will address the social dynamics and behavior that contribute to racial inequities.

A. RACE AND EDUCATION

In the educational context, racial disparities in discipline and achievement receive considerable attention in the national dialogue. While the causes are undoubtedly complex, the specter of the white teacher who fails to recognize the academic potential of young people of color and views them as disruptive or inattentive has been empirically established (Dee, 2005). Despite the prevalence of this image, it is unlikely that white teachers enter teaching with the explicit goal of harming students of color. The phenomena addressed in this report – implicit racial bias, racial anxiety, and stereotype threat – help explain how well-meaning and consciously egalitarian teachers may inadvertently contribute to some of the disparities we observe.

1. The Data: Race in Suspension and Discipline

A recent report by the U.C.L.A. Civil Rights Project shows an extraordinary increase in student suspensions from the 1970s to the present, but also illustrates that the most dramatic increases were among black and Latino students (Losen & Martinez, 2013). Suspension rates for white students increased by only 1.1% (from 6 to 7.1%), while the rates for black and Latino students more than doubled. In the 1970s, hardly the halcyon days of race relations, black student suspension rates where 11.8 %, and Latino students' rates were 6.1%. In 2009-2010, black students' rates were 24.3%, and Latino students' rates were 12%. The intersection between race and gender also demonstrates dramatic differences, with the percent of African American girls suspended 14% higher than that of white girls.

FIGURE 1. SECONDARY SCHOOL RISK FOR SUSPENSION
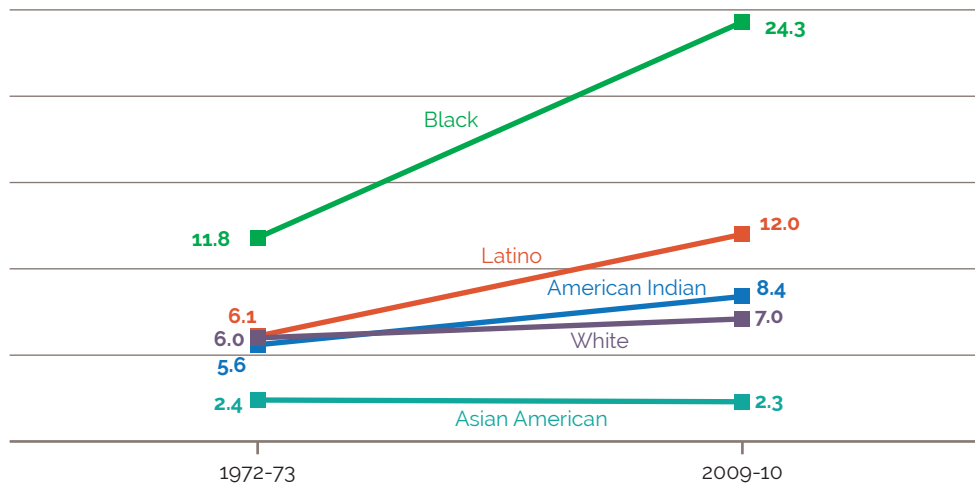
Some may argue that implicit bias is not at issue and that the numbers simply reflect differences in behavior. However, the data fail to support this conclusion. School districts and schools have wildly varying suspension rates. Chicago has the highest number of "hot spot" schools (84) in which 25% or more of the student body was suspended in a given year. Los Angeles has both the highest number of low-suspending schools (81) in which fewer than 10% of any subgroup within a school are suspended in a given year, but also 54 "hot spot" schools.

The research undermines any assumption that suspension rates reflect different levels of suspension–worthy behavior by black and Latino youth. Skiba et al. (2011) found that discipline and suspension disparities were not based upon more severely problematic behavior by black or Latino youth such as bringing weapons to school or acting aggressively toward other students, but instead that the greatest racial dispari–ties were in responses to subjective behaviors such as "disrespect or loitering." They found that black and Latino students may be less likely to be given detention or other moderate consequences, but that black students have almost four times the odds, and Latino students twice the odds, "of being suspended or expelled for a minor infraction at the elementary school level" (Skiba et al., 2011). While this over–representation was somewhat less pronounced in the middle school years, Skiba et al. (2011) still found that black students "are significantly more likely than white students to be suspended or expelled for disruption, moderate infractions, and tardy/truancy, while Latino students were more likely to be suspended or expelled in Grade 6–9 schools for all infractions except use/possession."

2. Implicit Bias and Education

Gregory et al. (2010) posit that implicit bias may play a role in disproportionate discipline, though they acknowledge that no one has yet studied teachers' implicit biases directly. Vavrus & Cole (2002) conducted an ethnographic study of urban

schools and found that officer referrals which ultimately led to suspensions were a result of students' "violation of implicit interactional codes," in which a student was seen as calling into question established classroom practices or the teacher's authority. This research, while not conclusive, suggests that implicit racial biases may well be affecting disciplinary decisions.

Few teachers are likely to admit to others (or even to know themselves) that they hold students to different standards or have varying expectations based on race or ethnicity. To date, researchers have not yet published outcomes of studies of the direct link between teachers' race- or ethnicity-based implicit bias and their assessments of student capacity or merit. As described below, studies have addressed the issue of whether teachers and others who work with students assess students differently based upon race and ethnicity.

Research outside of education confirms our fears that race may directly affect determinations of merit. For example, in a recent study by a consulting firm working with law firms, 60 partners were given an identical memorandum written by "Thomas Meyer," identified as a third year associate who went to NYU Law School (a top 10 school), that contained 22 different errors, 7 of which were minor spelling/grammar errors, 6 of which were substantive technical writing errors, 5 of which were errors in fact, and 4 of which were errors in analysis (Nextions, 2014). Half of the partners were led to believe that Meyer was white (Caucasian) and the other half that Meyer was African American. The results quoted below from the study's report are telling:

♦ An average of 2.9/7.0 spelling/grammar errors were found in "Caucasian" Thomas Meyer's memo in comparison to 5.8/7.0 spelling/grammar errors found in "African American" Thomas Meyer's memo.

♦ An average of 4.1/6.0 technical writing errors were found in "Caucasian" Thomas Meyer's memo in comparison to 4.9/6.0 technical writing errors found in "African American" Thomas Meyer's memo.

♦ An average of 3.2/5.0 errors in facts were found in "Caucasian" Thomas Meyer's memo in comparison to 3.9/5.0 errors in facts were found in "African American" Thomas Meyer's memo.

"Caucasian" Meyer

"generally good writer but needs to work on…"

"has potential"

"good analytical skills"

"African American" Meyer

"needs lots of work"

"can't believe he went to NYU"

"average at best"

This appears to be a case of "confirmation bias," in which reviewers saw what they expected to see based upon stereotypes and then drew conclusions that confirmed those stereotypes (Nextions, 2014). It is notable that the most significant disjuncture in errors between reviews of "Caucasian" Meyer and "African American" Meyer were simple spelling errors, yet these few more spelling errors called into question "African American" Meyer's suitability as a law student at NYU.

> The "Meyer" study seems to be a case of "confirmation bias," in which reviewers saw what they expected to see based upon stereotypes and then drew conclusions that confirmed those stereotypes.

Broader data sets tell a somewhat more complicated story. In a meta-analysis of studies assessing whether teacher expectations differ according to race or ethnicity, Tenenbaum & Ruck (2007) found that teachers hold a small but statistically significant higher level of expectations for Asian American students than for white students, and a small but statistically significant higher level of expectations for white students as compared to black and Latino students. They noted, however, that teachers who were teaching simulated lessons were more likely to hold lower expectations of black students than teachers who viewed a videotape or listened to an audio tape – and, notably, teachers who read vignettes rated black students more highly than white students (Tenenbaum & Ruck, 2007).

These results were not uniform, however, and conclusions differed depending upon the location of the study. Studies in which the authors did not specify the region showed larger effect sizes than those focused on the South, Northeast and Southwest, with studies in the Midwest showing virtually no difference, and studies in the West showing slightly more positive expectations for black students than white students (Tenenbaum & Ruck, 2007).

The variability of the studies suggests that when seeking to apply research to specific institutions it will be important to avoid making assumptions about how bias applies in every context. However, the Tenenbaum and Ruck meta-analysis, as well as a host of individual studies, confirms that general negative stereotypes about the academic capacities of students of color may affect teacher expectations, which can in turn create a warped lens through which teachers judge student performance.

3. Stereotype Threat and Education

Stereotype threat as experienced by students of color and girls of all races and ethnicities in STEM fields is of particular concern in an age of high-stakes testing. Stereotype threat has been shown to influence academic performance of students of color as early as middle school (Cohen et al., 2006). White teachers may also experience stereotype threat triggered by their fear of confirming the stereotype that they are racist – and rather than helping students of color through providing

effective feedback, the teachers' concerns about seeming racist may further harm these same students.

One meta-analysis combining the results of randomized field experiments involving more than 15,000 students found that conventional measures of academic performance significantly underestimated the ability of members of stereotyped groups (Walton & Spencer, 2009). The size of this gap – 0.17 standard deviations (62 points) on the SAT – is significant and is highly likely to be an underestimation. These effects can be substantially greater in settings with higher stakes associated with standardized testing, more difficult material, or lower representation of one's group, all of which may enhance the level of stereotype threat.

A startling example of the effects of stereotype threat was identified by Reardon et al. (2009), who found that the graduation rates of students of color and female students were significantly lower in California after that state introduced high-stakes "exit" exams in 2006. Graduation rates for white male students in the lowest quartile of high school classes were not affected by the exit exam; by contrast, graduation rates declined by 19% for black students, 17% for Asian American students, and 15% for Latino students (Reardon et al., 2009), The differences in effect were present even among students in the same school. The researchers, who found no difference in the scores of these same students on general achievement tests that are not high stakes, suggest that (a) students who take the high-stakes tests are not learning "more" than students who do not, and (b) the racial gaps in achievement among the low quartile students on the high-stakes tests are likely attributable to stereotype threat and not content knowledge (Reardon et al., 2009).

> In a vivid example of stereotype threat, the high school graduation rates of the students of color and female students fell significantly after California introduced high-stakes, "exit" exams in 2006 – but the graduation rates for white male students with similar high school grades did not change.

Research also shows that circumstances leading students of color to feel alienated from educational institutions can lead to avoidance of teachers or professors, academic support programs, and other facets of the school experience. Young people who are sensitive to social rejection find themselves feeling less belonging in the academic environment, which can prevent them from reaching their academic potential (Page-Gould & Mendoza-Denton, 2011). The fear of social rejection and feelings of alienation are often a reaction to prior experiences with white authority figures. Ironically, as the next section describes, white authorities may inadvertently undermine the academic success of students of color, not because of animus but with what appear to be positive intentions.

In a 2010 study, researchers asked teacher trainees first to describe the degree to which they consider themselves egalitarian and then to provide feedback on an essay attributed to either a black student or a white student (Harber et al., 2010). Even

though the trainees completed both of these tasks anonymously, those who were worried about being sufficiently egalitarian and who thought they were giving feedback to a black student displayed "positive bias" (giving overly positive responses to the student), whereas those who had affirmed their egalitarianism did not display this bias. The researchers found that alleviating the trainees' concerns about appearing egalitarian did not prevent them from identifying grammar and spelling errors; instead, it simply affected the extent to which they provided feedback on the content of the essay.

Relatedly, in a 2012 study, poorly written essays were sent to 126 middle school teachers in the Northeast who were instructed to provide feedback to the student author, who was believed to be either white, black, or Latino (Harber et al., 2012). Focusing on responses from the 113 white teachers, the researchers found that, although both groups provided an equal level of mechanical corrections to the essays, the teachers who thought they were responding to black and Latino students provided less critical feedback and more praise than teachers who thought they were responding to white students (Harber et al., 2012). The only exceptions were teachers who received "school based social support," which included both material support and feelings of belonging stemming from supportive fellow teachers and administrators; these teachers provided equal feedback to white and black students (though still less critical feedback to Latino students). These effects appear to be a result of white motivation to see themselves as not bigoted and a threat to their self-images can lead whites to act with heightened deference toward people of color (Crosby & Monin, 2007). The difference in outcomes for Latino students may reflect the perception among teachers that Latino students face particular obstacles – such as living in homes where English is a second language – but there is too little experimental research on Latino–white relations to reach firm conclusions regarding the extent or causes of Latino-targeted discrimination (Harber et al., 2012).

While we may perceive praise as good and helpful, obviously false praise undermines rather than encourages a student's growth (Harber, 1998). If given skewed feedback, black students will be uninformed about the quality of their work and will be deprived of the necessary tools to learn and improve. Students are also often aware when praise is unwarranted (Harber, 1998) and view critical feedback as a sign of care when it is conveyed supportively and shows the teacher's belief that the student can do better (Yeager et al., 2013; Cohen et al., 1999; Cohen & Steele, 2002).

> The experience of receiving unwarranted praise may lead students of color to discount genuine praise as a sign of "intergroup politeness."

A related phenomenon is that a fear of appearing prejudiced can lead to a "failure to warn" – where teachers or counselors fail to instruct a student about the potential negative consequences of a difficult proposed course or plan (Crosby & Monin, 2007). In a 2007 study, white peer advisors were given information about a prospective student who was seeking advice about whether to take on a particularly challenging course

schedule. Peer advisors who thought the student was white or Asian American recommended against the schedule as too much work for a given semester, but advisors who had black students did not. Authors of the study conclude that the white peer advisors may have been concerned about being perceived as racist by the student if they recommended against the schedule (Crosby & Monin, 2007).

Although direct research on stereotype threat among educators is limited, these findings suggest reason to be concerned that some teachers with the best of intentions may be inadvertently undermining students of color by not providing them with the critical feedback they require to achieve academic success. Researchers have long been concerned that students of color experience harm from inflated praise or insufficient constructive criticism that stem from the concern on the part of the teacher or advisor that they may appear racist. The experience of receiving unwarranted praise may lead students of color to discount genuine praise as a sign of "intergroup politeness" (Harber, 1998), and distrust or cynicism flowing from the experience could have additional intergroup effects as students of color move through education into employment settings.

B. RACIAL DYNAMICS IN HEALTH CARE

Just as education is critical to life opportunities, health care can literally determine whether we live or die. Almost no one would suggest that race should be a determinant of adequacy in health care, yet significant health disparities have been documented between whites and people of color on virtually every significant measure, including "disproportionate morbidity and mortality from chronic diseases including cancer, heart disease, diabetes, and stroke" (Shavers et al., 2012).

In addition to documenting outcome disparities, a robust literature also demonstrates that racial and ethnic discrimination are associated with a wide variety of adverse health outcomes, including higher mortality, lower use of cancer screening, elevated blood pressure, and higher incidences of substance abuse, mental and physical health disorders, obesity, and smoking. The disparities in health care outcomes between whites and racial and ethnic minorities are well-documented (Smedley et al., 2002), yet efforts to address and eliminate these disparities are "hampered by the lack of a full understanding of all proximal causes including any role that racial/ethnic discrimination within the health care system may play" (Shavers et al., 2012).

> A robust literature demonstrates that racial and ethnic discrimination is associated with a wide variety of adverse health outcomes.

A literature review of 26 studies examined respondents' perceptions of health care discrimination, including a number of surveys seeking responses to statements such as "African American women experience negative attitudes when they go to a white doctor's office" as contrasted with "Doctors treat African American and white women the same" (Shavers et al., 2012). Eighteen of the studies considered the impact

of patient perceptions of discrimination, and the key findings were that perceived discrimination was associated with a staggering array of negative outcomes. Perceived discrimination not surprisingly leads patients of color to have greater levels of mistrust of health care providers and greater tendencies to avoid or underutilize health services. It also is linked to both more psychiatric disorders and physical outcomes, such as greater bodily pain and diabetes complications (Shavers et al., 2012), mistrust of providers, and avoidance of health care systems. Among the few items not associated with perceived discrimination was lower utilization of the flu shot.

Research has been conducted to determine whether physicians' perceptions of patient race may affect treatment (e.g. Lewis et al, 2009; Albert, et al., 2010). In a summary review of this literature, van Ryn & Williams (2003) concluded that patient race "can influence providers' beliefs about and expectations of patients, independent of other factors." Other findings suggest that some physicians have explicit racial stereotypes that affect their treatment recommendations (van Ryn & Saha, 2011; van Ryn & Burke, 2000; van Ryn et al., 2006). In addition, researchers have identified patients' stereotype threat as a potential obstacle to positive medical outcomes and suggested that providers take steps to prevent stereotype threat from being triggered (Burgess et al., 2010).

1. Implicit Bias in Health Care

The literature suggesting that implicit bias may play a role in health care disparities is convincing. The most highly cited early study (Schulman et al., 1999) involved 720 physicians who were asked to diagnose and recommend treatment based upon videos of actors portraying patients of different races who used identical scripts and gestures to explain their primary symptoms, associated cardiac symptoms, relief of symptoms, and duration of symptoms. The physicians were 40% less likely to refer African Americans for cardiac catheterization than whites, with African American women receiving the lowest referral rates. Researchers opined that their findings "may suggest bias on the part of the physician [and] … could be the result of subconscious perceptions rather than deliberate actions or thoughts" (Schulman et al., 1999).

> Physicians were 40% less likely to refer African Americans for cardiac catheterization than whites, with African American women receiving the lowest referral rates.

In another study, researchers analyzed both implicit and explicit racial attitudes of self–identified medical doctors (Sabin et al., 2009). They found that levels of bias largely mirrored those of the general population, with doctors showing a more favorable bias toward white Americans over black Americans. The greatest bias toward whites was found among white male doctors. Hispanic doctors also showed strong preference for whites, and black male doctors showed low levels of preference for whites. Among women, white female doctors showed lower levels of preference for whites than white male doctors, and black female doctors showed no preference for any racial group. In a study of whether

doctors' implicit attitudes may affect treatment decisions, Green et al. assessed both explicit and implicit racial attitudes and then presented the doctors with descriptions of hypothetical cardiology patients, systematically varying the race of the patients. The doctors did not report explicit biases toward black patients, but had more negative implicit attitudes toward blacks and held stereotypes of blacks as uncooperative patients. The more negative the doctors' implicit attitudes, the less likely respondents were to recommend thrombolytic drugs for black patients (Green, et al., 2007).

In addition to these general trends, doctors in some fields may demonstrate less biased behavioral responses to racial difference. For example, pediatricians have shown notably lower levels of implicit bias, at the same time as they held mild implicit associations that black patients were "less cooperative" than white patients (Sabin et al., 2008). However, the researchers who conducted this study did not find that implicit attitudes predicted white patients receiving better health care. The researchers note that pediatricians are more likely to be female and that females generally have lower implicit preferences for whites, as well as noting that the sample size was small and may therefore not be generalizable (Sabin et al., 2008).

A study of pharmacy, nursing, and medical students in 2009 did not replicate the Sabin et al. pediatrician study (White-Means et al., 2009). While finding that medical pre-professionals on a whole scored much higher on cultural competency than the general population, they also found that the participants' levels of implicit bias were similar or even somewhat stronger than those found in the general population (though researchers suggest that the location of the study in the Southern Delta Region may account for the difference) (White-Means et al., 2009). Researchers found that self-reports of cultural competency and levels of implicit bias were not significantly correlated. This study did not measure whether IAT levels of preference can be linked directly with health outcomes; rather, it intended to assess whether further study is warranted.

2. Racial Anxiety and Health Care

Although implicit bias research emphasizes its effects on decisions made by medical professionals, in domains such as health care, the effects of racial anxiety can create independent sources of disparate treatment. Even if a physician or nurse makes correct diagnoses and treatment recommendations, if racial difference affects personal interaction with patients, those patients may have worse health outcomes.

Research using observational and retrospective studies of medical interactions has found that race can affect the interactions between physicians and patients (Dovidio et al., 2008; Cooper et al., 2003; Johnson et al., 2004; Gordon et al., 2006). In a broad literature review, Ferguson and Candib (2002) found that physicians working with patients of color may be less likely to be empathic, to elicit sufficient information, or to encourage patients to participate in medical decision-making. Research also shows that African American patients experience greater levels of distrust toward white counselors in clinical settings (Watkins & Terrell, 1988), a finding that has serious consequences for both mental and physical health care (Watkins et al., 1989).

For example, in studies using recordings of patients of color interacting with doctors of other races, researchers found that people of color tend to have shorter visits with white doctors and to have less patient–doctor positive affect (Cooper et al., 2003; Johnson et al., 2004). In a study of breast cancer patients, a context in which black women have shown significantly worse outcomes even when income and insurance availability are held constant, Siminoff et al. (2006) found that white doctors spent significantly less time engaging in relationship-building activities with patients of color. These racial dynamics clearly affect the quality of services, as well as how much care a patient receives or pursues. Patient health outcomes have been linked directly to the level of satisfaction and trust patients have in their doctors (Dovidio et al., 2008; Hall et al., 1988). Black patients have been found to be less likely to schedule appointments and more likely to delay or postpone an appointment if they have a white doctor (LaVeist et al., 2003). To the extent that racial disparities in treatment are eliminated, however, health outcome disparities are "substantially attenuated or absent" (Dovidio et al., 2008; Bach et al., 2002).

> A study of breast cancer patients found that white doctors spent significantly less time engaging in relationship-building activities with patients of color.

PART IV
INTERVENTIONS

The research presented on implicit bias, racial anxiety, and stereotype threat helps to explain otherwise confounding discrepancies between society's stated egalitarian ideals, racially disparate outcomes in education and health care, the experiences of bias by people of color, and interracial discomfort among people of all races and ethnicities. In addition to increasing our understanding, social psychologists have also made significant strides in identifying interventions that have been shown to reduce bias, calm racial anxieties, ameliorate the effects of threat, and transform interracial behavior.

In this section of the report, we describe concrete steps and interventions informed by research that can be implemented to move institutions and individuals toward eliminating race as an obstacle to educational success and the provision of health care. The interventions we discuss are devised to address contexts in which racial disparities are identified, but the vast majority of individuals within the institutions consciously reject negative attitudes and stereotypes. This focus does not foreclose the continued presence of explicit bias in our society or the role structural conditions play in perpetuating inequality (powell, 2012).

 Indeed, implicit bias, racial anxiety, and stereotype threat are all reactions to societal and institutional conditions. Individuals hold implicit associations and attitudes and experience racial anxiety and stereotype threat because unconscious processes absorb both biased cultural messages and deeply held norms of racial fairness. Yet broad cultural messages and noxious stereotypes can be defused by contexts that reduce bias, anxiety, and stereotype threat.

Related research shows that contact between racial and ethnic groups can result in decreased prejudice, reduced racial anxiety, and positive shifts in intergroup attitudes (Pettigrew & Tropp, 2011; Page-Gould et al., 2008). Yet intergroup contact does not always lead to these salutary outcomes; the particular contexts and conditions in which the interaction occurs will influence whether the contact will fulfill its positive potential (Tropp & Page-Gould, 2014).

Thus, the good intentions of individuals are rarely sufficient by themselves to achieve desired intergroup outcomes. Institutions can change the environmental conditions in ways that dramatically reduce the effects of implicit bias and make racial anxiety and stereotype threat less likely. In turn, individuals situated in those institutions can benefit greatly from strategies that lead to reduced bias and behaviors that stem from such bias, allowing them to experience more positive cross-group interactions, the alleviation of racial anxieties, and resilience in the face of stereotype threat.

The catalysts for institutions and individuals to undertake these interventions will vary. Some will embrace the opportunity to create conditions that are consistent with racial equality ideals. Others may be concerned that litigation efforts under the Equal Protection Clause or Title VI of the Civil Rights Act or administrative investigations by invigorated Offices of Civil Rights will have greater likelihood of success in light of the robust evidence that race is the proximate cause of harmful behavior.

Our goal in this report is to describe the kinds of interventions that institutions ought to adopt and that individuals ought to engage in – whether voluntarily or subject to a consent decree or administrative order – to respond effectively to the racial dynamics that lead to the wide array of harms to stigmatized groups, as described above. We focus on research suggesting interventions to address implicit bias, racial anxiety, stereotype threat, and the specific work that has been done on inter-group contact.

> The Supreme Court Equal Protection jurisprudence is clear that it is necessary for plaintiffs to establish that actions were taken "because of race," not that defendants possessed racial animus. Ricci v. DeStefano, 129 S. Ct. 2658, 2690 (2009). The mind sciences provide powerful tools for lawyers seeking to prove that certain actions were a result of race, not incidental to it.

A. IMPLICIT BIAS INTERVENTIONS

Social science research focusing on addressing the effects of implicit bias can be divided into two broad categories: interventions seeking to "debias" (that is, to reduce implicit bias) and those directed toward mitigating the effects of bias and preventing implicit biases from affecting behavior. All agree that generic admonitions about race are unhelpful; the premise of this literature is that the vast majority of people already hope to adhere to racial equality norms.

1. "Debiasing" or Reducing Implicit Bias

"Debiasing" research is more nascent than the diagnostic research; researchers have devised some promising strategies (Dasgupta & Asgari, 2004; Dasgupta & Rivera, 2006; Devine et al., 2012), but are cautious (Joy-Gaba & Nosek, 2010). In one study, researchers found that exposure to counter-stereotypic examples of people can diminish implicit stereotypes of women and negative implicit attitudes toward gays (Dasgupta & Asgari, 2004; Dasgupta & Rivera, 2006). In a related study, inducing empathy toward an Asian American movie character (the daughter in *The Joy Luck Club)* resulted in decreased implicit bias toward Asian Americans (Shih et al., 2013).

Devine et al. (2012) have found success in reducing implicit bias by combining multiple interventions to "break the prejudice habit." The strategies (which thoughtfully utilize findings from other research) included those detailed below.

Stereotype Replacement

This strategy involves replacing stereotypical responses with nonstereotypical responses. Using this strategy involves recognizing that a response is based on stereo-types, labeling the response as stereotypical, and reflecting on why the biased response occurred. Next, one considers how the biased response could be avoided in the future and replaces it with an unbiased response (Monteith, 1993).

Counter-Stereotypic Imaging

This strategy involves imagining in detail counter-stereotypic others (Blair et al., 2001). These can be abstract (e.g., smart black people), famous (e.g., Barack Obama), or non-famous (e.g., a personal friend). The strategy makes positive exemplars salient and accessible when challenging a stereotype's validity.

Individuation

This strategy relies on preventing stereotypic inferences by obtaining specific infor-mation about group members (Brewer, 1988; Fiske & Neuberg, 1990). Using this strategy helps people evaluate members of the target group based on personal, rather than group-based, attributes.

Perspective Taking

This strategy involves assuming a first-person perspective of a member of a stereotyped group. Perspective taking increases psychological closeness to the stigmatized group, which ameliorates automatic group-based evaluations (Galinsky & Moskowitz, 2000).

Increasing Opportunities for Contact

This strategy involves seeking opportunities to encounter and engage in positive interactions with out-group members. Increased contact can ameliorate implicit bias through a wide variety of mechanisms, including altering the cognitive representa-tions of the group and directly improving evaluations of the group (Pettigrew, 1998; Pettigrew & Tropp, 2006; Devine et al., 2012).

Devine and colleagues (2012) found that after four weeks of engaging in the inter-ventions described above, intervention group participants had lower IAT scores than control group participants (B=−.19, t(88)=−2.82, p=.006, R2=.081). And these effects held when participants retook the IAT another four weeks later (B=.091, t(88)=.82, p=.42, R2=.008), leading researchers to conclude that the reduction in implicit race bias persisted throughout the eight-week interval.

These data "provide the first evidence that a controlled, randomized interven-tion can produce enduring reductions in implicit bias" (Devine et al., 2012). While earlier studies have found implicit bias to be less malleable (Joy-Gaba & Nosek, 2010), Devine et al. have replicated their study and are poised to publish a second article describing their findings in 2015.

While these results provide reason to be optimistic, it is important to recognize that it is impossible at this point to control for the continued prevalence of negative,

racialized imagery in the media (Dixon, 2008, 2009). Accordingly, most researchers agree that it is critical to focus on the behavioral manifestations of implicit bias as well.

2. Preventing "Biased" Decision-making

Most of the interventions devised to address implicitly biased behavior have been directed primarily toward the effects of implicit bias on decision-making. Notably, Jerry Kang led a group of social scientists, law professors, and a federal judge to identify an array of actions that have been found to decrease the likelihood that implicit bias will affect decision-making (Kang et al., 2012).

Doubt Objectivity

As noted above, the greater the extent to which one presumes the capacity to be objective, the greater the risk that the person will inadvertently allow bias to influence decision-making. There is some evidence to suggest that teaching people about nonconscious thought processes will lead them to be more skeptical of their own objectivity and, as a result, be better able to guard against biased evaluations (Pronin, 2007).

Increase Motivation to Be Fair

Guarding against biased evaluations is obviously more likely to occur if a person has the motivation to be fair. Research has demonstrated that people with motivation to be egalitarian were able to prevent their implicit anti-gay attitudes from affecting their behavior (Dasgupta & Asgari, 2004). Consistent with this model, the National Center for State Courts has organized a project to teach judges and court staff about implicit bias (National Center for State Courts, 2012). The results from a three-state project suggest that those judges who were taught the neuroscience of bias were successfully convinced that implicit bias can impact behavior, and those who responded to follow-up surveys indicated that they were making efforts in their own courtrooms to reduce the effects of bias (Kang et al., 2012). Although the number of respondents was small and self-reports are not always accurate, this work provides some evidence to suggest that education about implicit bias can increase motivations to be fair and to engage in behavioral change.

> Implicitly biased behavior is best detected by using data to determine whether patterns of behavior are leading to racially disparate outcomes.

Improve Conditions of Decision-making

Implicit biases are a function of automaticity (Kahneman, 2011). "Thinking slow" by engaging in mindful, deliberate processing prevents our implicit schema from kicking in and determining our behaviors. Ideally, decisions are made in a context in which one is accountable for the outcome, rather than in the throes of any emotion (either positive or negative) that may exacerbate bias.

Count

Implicitly biased behavior is best detected by using data to determine whether patterns of behavior are leading to racially disparate outcomes. Perhaps not surprisingly in light of the assumptions many make about the decrease in discrimination in our society, research has shown that people are more likely to detect discrimination when it is presented in the aggregate rather than on a case-by-case basis (Crosby et al., 1986). Once one is aware that decisions or behavior are having disparate outcomes, it is then possible to consider whether and how the outcomes are linked to bias.

These interventions have enormous potential to address the cognitive dimensions of implicit bias. However, those who adhere to egalitarian norms are likely to be deeply concerned and upset when they learn that they have not successfully shed the effect of noxious stereotypes. This reaction can be helpful if it creates incentives to adopt the interventions described above to ensure that behavior is not dictated by implicit biases.

However, there is also the possibility that the interventions focused on raising awareness of the risk of implicit bias may induce some people to focus more on whether they appear biased rather than on actually altering their behavior. Social psychologists differentiate between "external motivation to control prejudice" (EMS) and "internal motivation to control prejudice" (IMS) and have designed measures to assess people's variability on these dimensions (Plant & Devine, 2003). Indeed, those who show an external motivation to control prejudice (for example, those who agree with statements such as "I attempt to appear non-prejudiced toward black people in order to avoid disapproval from others") often report high levels of racial bias in private (Plant & Devine, 1998); by contrast, those who are high on internal motivation to control prejudice (agreeing with statements such as "I attempt to act in a non-prejudiced way toward black people because it is personally important to me") are less likely to differ in their private and public reports of bias.

We do not take these findings to mean that teaching about implicit bias should be avoided. Rather, we believe attempts to teach people about implicit bias should be accompanied by a discussion of the many factors that contribute to its development and the strategies people can employ to reduce its influence. Most important, people should be taught the interventions that can ameliorate both the threat and the behavioral effects of implicit bias. Moreover, to keep this information from inducing racial anxiety and stereotype threat, implicit bias training should be supplemented with thoughtful interventions such as those described below, within an integrated framework developed by the institutions in which they are used.

> People should be taught that interventions can ameliorate both the threat and the behavioral effects of implicit bias.

B. REDUCING RACIAL ANXIETY

The mechanisms for reducing racial anxiety are related to – but are not identical to – the reduction of implicit bias, and a combination of intervention strategies is vastly more likely to be successful than either approach in isolation.

In this section, we will focus on two approaches to reducing racial anxiety. The first is "intergroup contact," which refers to direct interaction between members of different racial groups; the second, "indirect contact," describes ways in which people are exposed to positive interactions between members of their group and another group, without necessarily having direct interaction with the other group themselves. Both approaches have been shown to be effective in enhancing positive intergroup attitudes, in part through reducing intergroup anxiety (Wright et al., 1997; Pettigrew & Tropp, 2008; Turner et al., 2008).

1. Intergroup Contact

The role of intergroup contact in reducing anxiety and bias underscores the role of emotion in racial interactions. It is not enough for people to be taught that negative stereotypes are false or to believe in the morality of non-prejudice. People need to feel a connection to others outside of their group; once people feel connected, their racial anxiety decreases and so does their bias (Pettigrew & Tropp, 2008; Voci & Hewstone, 2003).

Intergroup friendships are considered most effective in promoting positive inter-group attitudes (Binder et al., 2009; Brown & Hewstone, 2005; Davies et al., 2011). Having intergroup friendships or robust intergroup contact is valuable not only in creating more positive attitudes, but also in creating greater resilience for future cross-group interactions which have the potential to be stressful (Page-Gould et al., 2010). Prior positive contact can also enhance the likelihood that future cross-group interactions will be positive. Page-Gould et al. (2010) have found that priming people to think about prior positive cross-group contact before a new cross-group interaction can help to facilitate a positive intergroup experience in that new interaction. Similarly, Mallett et al. (2008) have observed positive shifts in expectations for cross-group interactions, by having subjects observe a positive cross-group interaction and write about their own similar experience. In other words, instead of anticipating the worst, we can establish more positive expectations for interactions that often flow into more positive intergroup experiences (Mallett et al., 2008). This in a sense reverses the effect of pluralistic ignorance (Shelton & Richeson, 2005) and can ideally alter that dynamic.

A great deal of social science focuses on how intergroup contact can lead to a range of positive outcomes among both whites and people of color (Tropp & Page

> People need to feel a connection to others outside of their group; once people feel connected, their racial anxiety decreases and so does their bias.

Gould, 2014), though conditions of the contact situation can undermine or facilitate such positive effects. It has long been recognized that certain factors are of particular importance, including the establishment of equal status between groups, cooperation, common goals, and institutional support for the contact (Allport, 1954; Pettigrew & Tropp, 2006). Cooperative learning strategies and integrated sports teams exemplify these ideal conditions (Slavin, 1979; Brown et al., 2003). Still, such optimal conditions cannot always be guaranteed, and as such, researchers have sought to identify means through which cooperative interdependence between groups might be achieved.

In particular, researchers have noted that it is important to create a shared sense of identity, while also acknowledging group differences. Tension can ensue if group difference is emphasized before a certain degree of trust and rapport has developed (Brewer & Miller, 1984; Miller, 2002), but ignoring group difference tends to undermine the potential for broader positive impacts resulting from intergroup contact (Hewstone & Brown 1986; Brown & Hewstone, 2005). When people of different races and ethnicities interact with one another, those interactions will yield more general changes in intergroup attitudes only if they are recognizing group membership (Brown et al., 2007; Brown et al., 1999; Van Oudenhoven et al., 1996; Voci & Hewstone, 2003). Researchers have also found that emphasizing group differences once relationships have been developed can help to build cross-group intimacy and understanding (Nagda, 2006; Tropp, 2008), and to ensure that meaningful differences in perspective and experience are not disregarded or overlooked (Eggins et al., 2002; Tropp & Bianchi, 2007).

> The "extended contact" effect, knowing that members of your group have friends of other races and ethnicities, can positively shift your attitudes toward members of those other races and ethnicities.

2. Indirect or "Extended" Contact

In light of current patterns of racial segregation in so many life domains, sustained interracial interaction may not always be easy to achieve (powell, 2012). Racial anxiety is often a byproduct of living in a racially homogenous environment, which renders future intergroup interaction less likely and increases the chances that it will be less positive if it does occur (Plant & Devine, 2003). As a result, researchers have sought to develop strategies that can facilitate positive intergroup dynamics even among racially homogenous groups, both to enhance attitudes toward other racial and ethnic groups and to diminish anxiety about potential interactions with members of those groups (Christ et al., 2010; Page-Gould et al., 2010; Page-Gould et al., 2008).

One important approach is known as the "extended contact" effect, which refers to the idea that knowing that members of your group have friends in the other group can positively shift your attitudes toward and expectations for contact with members of those other groups (Wright et al., 1997; Turner et al., 2008; Gómez et al., 2011).

Extended contact research shows that even if a person does not have opportunities to interact directly with members of other groups, knowing that others in their own group have positive relations can help to shift their own attitudes more positively toward members of other groups. Indeed, a number of studies indicate that while direct contact tends to be more effective in improving intergroup attitudes when there are ample contact opportunities, indirect strategies such as "extended contact" tend to be more effective when opportunities for direct contact are limited (Eller et al., 2012; Christ et al., 2010). For example, in a study focusing on whites' attitudes toward Mexican Americans in California, Eller and colleagues (2012) found that extended contact (knowing whites with Mexican American friends) reduced prejudice when direct contact was minimal but did not influence prejudice levels when direct contact was high.

Like direct contact, these approaches have been shown to be effective in enhancing positive intergroup attitudes, in large part through reducing intergroup anxiety (Wright et al., 1997; Mazziotta et al., 2011; Turner et al., 2008). In addition, this work highlights the roles that norms play in shaping attitudes toward other groups and expectations for cross-group interaction – including both in-group norms demonstrating how members of our group should relate to others and out-group norms indicating how we can expect to be received by members of other groups (Gómez et al., 2011; Turner et al., 2008). This body of work is important because it provides options for addressing prejudice and racial anxiety in racially homogenous environments – which, in light of the continued prevalence of segregation in K-12 education, is critical (UCLA Civil Rights Project, 2014).

C. STEREOTYPE THREAT INTERVENTIONS

Social scientists have developed an array of interventions that have been found to either prevent stereotype threat from being triggered or to significantly lessen its effects (Erman & Walton, in press). These interventions, which have been constructed primarily to address the effect of stereotype threat on student's performance, include the interventions described below.

Social Belonging Intervention

When people worry that they don't belong or aren't valued because of their race, they are likely to interpret experiences in a new environment as evidence that their race is an impediment to their belonging and success. The "social belonging" intervention in the context of education is based on survey results showing that upper-year students of all races felt out of place when they began, but that the feeling abated over time. In a study of this intervention, both black and white students were given this information, along with a series of reflection exercises. The intervention resulted in improvement in black students' grades, at the same time as it had no effect on the grades of white students (Walton & Cohen, 2007). As such, the intervention protected students of color "from inferring that they did not belong in general on campus when they

encountered social adversity" (Erman & Walton, in press) and helped them develop resilience in the face of adversity.

Wise Criticism

A significant challenge for people of color in school or work settings is determining whether negative feedback is a result of bias or, just as detrimental, whether positive feedback is a form of racial condescension. This uncertainty – coined *attributional ambiguity* by Crocker and Major (Crocker et al., 1991) – hinders improvement by putting people of color in a quandary in terms of deciding how to respond to feedback. Cohen et al. (1999) developed an intervention used with college students that addresses this quandary by having teachers and supervisors communicate both high expectations and a confidence that the individual is capable of meeting those expectations.

The wise criticism (or high standards) intervention has been tested in other contexts, including criticism of middle school essays (Yeager et al., 2013). In this experiment, when students received a note on a paper which read, "I'm giving you these comments so you have feedback on your essay," 17% of black students chose to revise and resubmit their essay a week later. When the note read, "I'm giving you these comments because I have high standards and I know that you can meet them" – thereby disambiguating the reason for the critical feedback – 71% of black students revised and resubmitted their essay (Yeager et al., 2013).

Growth Mindset

This concept is based on work by Carol Dweck (Dweck, 2006) showing that abilities can be conceptualized as either an entity ("you have it or you don't") or an increment ("you can learn it"). If one holds the former concept, then poor performance confirms inadequacy; however, if one holds the latter view, then poor performance simply means one has more work to do. Having the "growth mindset" has been useful in the context of stereotype threat because it can prevent any one particular performance from serving as "stereotype confirming evidence" (Steele, 2010).

Value-Affirmation

This intervention, like the social belonging intervention, helps students maintain or increase their resilience. Students experiencing stereotype threat often lose track of "their broader identities and values – those qualities that can make them feel positively about themselves and which can increase their resilience and help them cope with adversity" (Erman & Walton, in press).

Remove Triggers of Stereotype Threat on Standardized Tests

Because standardized tests are typically understood as intended to evaluate students' intellectual ability, they are likely to trigger stereotype threat as a default (Walton & Spencer, 2009). Small cues can exacerbate the threat; for example, in a foundational laboratory experiment, researchers found that asking black students to indicate their race before a test triggered stereotype threat that undermined their scores (Steele & Aronson, 1995). In a field experiment of the Advanced Placement (AP) Calculus test, researchers found that moving demographic queries from immediately before the test

to after the test raised girls' scores; in fact, they estimated that, if implemented nation-wide, this change would cause 4,700 additional girls each year to receive AP Calculus credit (Danaher & Crandall, 2008).

Many of these interventions can be translated from domains of ability to the context of character-based stereotype threat. The interventions are largely premised on the idea that, so long as a person is not worrying that he or she will be judged or presumed to confirm a stereotype about her or his group, the threat will not be triggered and the behavioral effects of the threat will not occur. The mechanisms to address ability threat and character threat are quite similar – and sometimes overlap. In other words, an intervention to prevent students of color from the performance-decreasing effects of stereotype threat may also prevent the white professor from the performance-decreasing effects of stereotype threat. The "wise criticism" and "growth mindset" interventions can be translated to the character threat context, and a third intervention, behavioral scripts, was developed by Goff and colleagues specifi-cally to address character-based threat.

Wise Criticism for Benefit Teachers/Supervisors

Although further research is necessary, these findings allow us to posit that instructing whites in how to use the "high standards" model can prevent white stereotype threat from being triggered. White stereotype threat manifests because of the concern that a person who engages in certain behavior will be perceived as prejudiced; as described above, providing critical feedback (for example, on an essay or a set of unhealthy behaviors) is one example of a situation where this may occur. If people are taught that they will be perceived as less biased if they provide critical feedback than if they provide empty praise, as long as the critical feedback is coupled with affirmation that they have high expectations of the person who is receiving the criticism and have confidence that the person can meet those expectations, they will be less likely to experience stereotype threat.

It is, of course, possible that an individual who receives criticism under this model may still experience critical feedback as uncomfortable; life-long experiences of discrimination will not completely dissipate or seem no longer relevant after a single experience with wise feedback. Nonetheless, the intervention can help prevent the adverse effects that whites' stereotype threat may have on subordinates or students of color, by addressing nonverbal as well as verbal cues. For instance, if a white person in a position of authority knows that she is doing right by her students, patients, or employees, she is likely to feel more confident and less anxious in the interaction and may therefore be less likely to engage in distancing or avoidant behavior and better able to have perspective on the situation rather than feel threatened by it.

Behavioral Scripts

A more general variant of the "high standards" instruction is the use of "behavioral scripts" for whites to use in interracial interactions. The studies described below have

investigated the utility of behavioral scripts in preventing behavior associated with threat or anxiety.

In their distancing study, Goff et al. (2008) found that when white participants were given a "position" to present during interracial interaction in which racial profiling was the subject, white participants no longer moved further away from their black conversation partners than from their white conversation partners. Researchers concluded that when directed to share an already constructed position, the white person's "self" was no longer at issue in the discussion because the person had been given a position to take and was not at risk of being judged as prejudiced based upon a comment or opinion he or she held.

Avery et al. (2009) tested the utility of providing "defined social scripts (i.e., norms dictating expected interpersonal behavior)" to white participants prior to black–white interracial interactions. Their goal was to reduce behavior that would stem from anxiety felt by white participants – including the anxiety triggered by white stereotype threat. Their research built upon earlier researching findings that whites reported feeling more comfortable in scripted interactions with blacks (for example, serving a black customer in a restaurant) than in unscripted interactions (sitting in a crowded table in a library where a black person is already sitting). Researchers were interested in white participants' behavior rather than self-reports, and in behaviors detectable to black people and which trigger avoidance on both sides of the racial dyad. Using video telephone conversations as a vehicle, researchers in this study found that scripted encounters were effective in reducing white anxiety as measured by third-party observers and suggested that providing scripting is particularly important for initial interactions. Extrapolating the results, Avery et al. suggest that institutions should provide structured interactions for first encounters – such as asking people to "tell each other three interesting things about yourself" or to "describe your role in the organization."

Incremental Orientation

Having the "growth mindset" has been useful in the stereotype threat context because it can prevent any particular performance for serving as "stereotype confirming evidence" (Goff et al., 2008). Goff and colleagues hypothesized that introducing the learning or growth mindset in the white stereotype threat domain would serve the same function. Some recent work offers preliminary support for this notion (Migacheva & Tropp, 2013; Migacheva et al., 2011; Murphy et al., 2011). For example, studies with African American and white middle school students, and white high school students in a community service-learning program, suggest that a lower focus on self-concerns and a greater orientation toward learning about other groups predicted greater comfort and interest in future cross-group interactions (Migacheva & Tropp, 2013).

D. INTERVENTIONS IN CONTEXT

The fundamental premise of this report is that institutions seeking to alter racially disparate outcomes must be aware of the array of psychological phenomena that may be contributing to those outcomes. The potential harm of implicit biases has been recognized, and many institutions are beginning to engage in efforts to prevent implicit biases from undermining fair and equitable decision-making. For example, recent research suggests potential interventions for hospitals and doctors to reduce the effects of implicit bias (Chapman et al, 2013). This report contributes to that work by summarizing important research into debiasing and preventing bias from affecting behavior; we also seek to encourage institutions to look beyond implicit bias and to recognize that racial anxiety and stereotype threat may also be obstacles to racially equal outcomes.

We recommend that institutions work with social scientists to evaluate and determine where in the institution's operations race may be coming into play. A model for this kind of collaboration is the Center for Policing Equity, under whose auspices researchers and police departments have sought to implement the following four specific research interventions:

♦ Tools to identify officers likely to engage in biased policing

♦ Trainings that are effective in reducing biased policing

♦ Results-oriented practices with regard to departmental policies (staffing levels, discipline, etc.) that ensure equitable policing

♦ Systematic ways of gauging community perceptions of racial bias. (See cpe.psych. ucla.edu/images/uploads/cple_contract_for_policing_justice.pdf)

Schools and hospitals are likely to have similar concerns. For example, education research suggests that the primary areas of concern linked to race are: disproportionate discipline, disparate assessments of merit, insufficient constructive feedback, academic underperformance, and disengagement. Accordingly, schools need to identify:

♦ Teachers who are likely to be affected by bias in making disciplinary decisions

♦ Teachers who are likely to be affected by bias in assessing academic capacity

♦ Teachers who are likely to give differential feedback to students based upon race

♦ Teachers whose interactions with students trigger stereotype threat leading to underperformance or disengagement

As the policing context suggests, the goal of identifying the psychological phenomena that lead to particular outcomes – as derived from implicit bias, racial anxiety, and stereotype threat – should be followed by the development of tailored strategies to change the behavior. This focused, diagnostic approach to addressing racial anxieties and disparities is likely to yield more beneficial and far-reaching outcomes than attempts to blame or shame individuals within an institutional setting.

CONCLUSION
TRANSFORMATIVE CHANGE REQUIRES STRUCTURAL CHANGE AND A CULTURE SHIFT

The empirically documented effects of implicit bias and race as an emotional trigger allow us to talk about race without accusing people of "being racist," when they genuinely believe they are egalitarian. The social science research described in this report may help people understand why interracial dynamics can be so challenging and why inequitable behaviors persist, despite people's best intentions. The interventions suggested by the research can be of value to institutions and individuals seeking to align their behavior with their ideals. Yet the broader culture and, ultimately, our opportunity structures need to change in order to maximize the effectiveness and potential success of these interventions.

People of color generally, and black men and boys in particular, are systematically portrayed in negative ways in news and entertainment programming, which can have the effect of activating and exacerbating racial stereotypes (Dixon, 2009; Dixon, 2008). Blacks are disproportionately portrayed as criminals on local news programming, while whites are disproportionately shown as victims. For example, an analysis of crime news on a Los Angeles–area station revealed that 37% of perpetrators portrayed were black, even though blacks only accounted for 21% of those arrested during that time span. Conversely, 43% of all homicide victims shown on television were white, while whites represented only 13% of actual homicide victims (Dixon & Linz, 2000). Studies in Chicago, Philadelphia, and Pittsburgh have shown similar results (Klein & Naccarato, 2003). The over-representation of the criminality of blacks and the victimization of whites is accompanied by other racially-skewed effects, such as the over-portrayal of black-on-white violence, and the increased likelihood that a black defendant will face prejudicial pretrial news coverage (Dixon, 2008; Dixon & Linz, 2002).

Blacks and Latinos are also too regularly shown as either criminal or poor on network news and national print media, creating negative racial stereotypes in ways that conflict with reality and create a series of harmful associations (Dixon, 2008). Together, these media tendencies toward bias and discrimination agitate and reinforce numerous harmful racial stereotypes and associations.

Culture plays an important role in reinforcing implicit bias, increasing our racial anxieties and undermining conversations about racial equality and opportunity. Thus, we must work toward developing a more accurate portrayal of people of color in the cultural domain. This cultural move will simultaneously validate our current sense that the lived experiences of people of color are insufficiently represented in the

cultural realm and show the similarities in experiences, concerns, and values among men and women of all races. Challenging the caricatures – black people as either criminals or "exceptionals" (the President, the occasional judge, the star athlete), Asian Americans as computer-savvy but lacking emotional intelligence, Latinos as exotic immigrants – will serve the emotional needs of all communities. A cultural shift has enormous potential to increase intergroup empathy. Although we have seen some positive movement in popular culture with regard to race, we must be vigilant about the continued prevalence of stereotyped portrayals.

Along with the power of the cultural portrayal of people of color to create perceptions that operate as structural barriers to equality, it is crucial that we recognize how the inter-institutional arrangements and interactions that constitute "structures" shape life outcomes apart from any acts of individuals within those institutions (Grant-Thomas & powell, 2014). Even if the interventions we describe were implemented tomorrow, the current racially inequitable structures would continue "to create and distribute the society's benefits, burdens and interests" in ways that disadvantage people of color (Grant-Thomas & powell, 2014). This report does important work, we hope, in describing social psychological phenomena and strategies to address these phenomena, but we recognize that confronting the full panoply of structural racialization requires a broader recognition of our society's operations.

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RACIAL ANXIETY

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Science is nothing but perception.

~Plato

T his first volume of The Science of Equality, *Addressing the Impact of Implicit Bias, Racial Anxiety, and Stereotype Threat in Educa tion and Health Care,* documents how perceptions of ourselves and others impact education and health care. Drawing on over two hundred studies, we describe the operation of implicit bias, racial anxiety, and stereotype threat, document how students of color are both overdisciplined and given too little feedback on their work in the classroom, how standardized tests lowball the aptitudes and abilities of black and Latino students, and show how doctors are far from immune from the kinds of biases and anxieties that affect all of us, leading to worse outcomes for African Americans and increased distrust between black patients and white doctors.

We live in a time when discrimination looks less like a segregated lunch counter and more like a teacher never calling on your son or a doctor failing to inspire trust in your daughter and improperly diag nosing her illness as a result. *The Science of Equality, Volume 1* shows the role perception plays in our daily lives from the mundane to the tragic. It's our sincere hope that translating these insights can make the complex science around race and the mind accessible, and show how these scientific phenomena affect every sphere of our lives.

— from the Foreword

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