Topic: **Implicit Bias**

Date: Monday, June 26, 2017
Time: 3:30 – 5:00 p.m.
Place: Lower Plaza Assembly Room (Hall of Administration)
Speaker(s):   Evelyn Carter, Ph.D., and Jonathan P. Feingold, J.D.
MCLE: 1.5 hour MCLE credit, elimination of bias

The class is mandatory for managers, supervisors, attorneys and investigators.

Throughout the country, law enforcement and prosecutors have been accused of disparate treatment of different races and ethnic groups. Many of these allegations are not supported by the underlying facts, but the frequency with which these concerns are raised make it an important issue about which we should educate ourselves. The class will discuss research that unconscious beliefs about members of various groups can affect the way cases are presented and the attitudes of our judges and jurors.

The speakers encourage the attendees to watch the BruinX Implicit Bias video series. You can also take a 10-minute confidential test online at https://implicit.harvard.edu/implicit/

The Ventura County District Attorney's Office is a State Bar of California approved MCLE provider. The above listed class will qualify for 1.5 hours MCLE credit by the State Bar for Recognition and Elimination of Bias in the Legal Profession and Society.

Thank you,

Jan

IMPLICIT BIAS

June 26, 2017

Lower Plaza Assembly Room
Hall of Administration
800 South Victoria Avenue, Ventura, CA

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AGENDA

3:30 - 3:35	Introductions
3:35 – 4:20	Principles of Implicit Bias, research, approaches
4:20 – 4:45	Effects of implicit bias on interpersonal judgments and decision-making
4:45 – 5:00	Questions, answers, and discussion

NCSC
National Center for State Courts

Race & Ethnic Fairness in the Courts

Implicit Bias

A Primer for Courts

Jerry Kang

Prepared for the National Campaign to Ensure the Racial and Ethnic Fairness of America's State Courts

August 2009

Implicit Bias: A Primer

Schemas and Implicit Cognitions (or "mental shortcuts")

Stop for a moment and consider what bombards your senses every day. Think about everything you see, both still and moving, with all their color, detail, and depth. Think about what you hear in the background, perhaps a song on the radio, as you decode lyrics and musical notes. Think about touch, smell, and even taste. And while all that's happening, you might be walking or driving down the street, avoiding pedestrians and cars, chewing gum, digesting your breakfast, flipping through email on your smartphone. How does your brain do all this simultaneously?

It does so by processing through schemas, which are templates of knowledge that help us organize specific examples into broader categories. When we see, for example, something with a flat seat, a back, and some legs, we recognize it as a "chair." Regardless of whether it is plush or wooden, with wheels or bolted down, we know what to do with an object that fits into the category "chair." Without spending a lot of mental energy, we simply sit. Of course, if for some reason we have to study the chair carefully--because we like the style or think it might collapse--we can and will do so. But typically, we just sit down.

We have schemas not only for objects, but also processes, such as how to order food at a restaurant. Without much explanation, we know what it means when a smiling person hands us laminated paper with detailed descriptions of food and prices. Even when we land in a foreign airport, we know how to follow the crazy mess of arrows and baggage icons toward ground transportation.

These schemas are helpful because they allow us to operate without expending valuable mental resources. In fact, unless something goes wrong, these thoughts take place automatically without our awareness or conscious direction. In this way, most cognitions are implicit.

Implicit Social Cognitions (or "thoughts about people you didn't know you had")

What is interesting is that schemas apply not only to objects (e.g., "chairs") or behaviors (e.g., "ordering food") but also to human beings (e.g., "the elderly"). We naturally assign people into various social categories divided by salient and chronically accessible traits, such as age, gender, race, and role. And just as we might have implicit cognitions that help us walk and drive, we have implicit social cognitions that guide our thinking about social categories. Where do these schemas come from? They come from our experiences with other people, some of them direct (i.e., real-world encounters) but most of them vicarious (i.e., relayed to us through stories, books, movies, media, and culture).

If we unpack these schemas further, we see that some of the underlying cognitions include stereotypes, which are simply traits that we associate with a category. For instance, if we think that a particular category of human beings is frail--such as the elderly--we will not raise our guard. If we think that another category is foreign--such as Asians--we will be surprised by their fluent English. These cognitions also include attitudes, which are overall, evaluative feelings that are positive or negative. For instance, if we identify someone as having graduated from our beloved alma mater, we will feel more at ease. The term "implicit bias"

would you rank a job with the title Assistant Manager that paid $160,000 in Miami working for Ms. Smith, as compared to another job with the title Vice President that paid $150,000 in Chicago for Mr. Jones? (Caruso 2009).

Scientists have been endlessly creative, but so far, the most widely accepted instruments have used reaction times--some variant of which has been used for over a century to study psychological phenomena. These instruments draw on the basic insight that any two concepts that are closely associated in our minds should be easier to sort together. If you hear the word "moon," and I then ask you to think of a laundry detergent, then "Tide" might come more quickly to mind. If the word "RED" is painted in the color red, we will be faster in stating its color than the case when the word "GREEN" is painted in red.

Although there are various reaction time measures, the most thoroughly tested one is the Implicit Association Test (IAT). It is a sort of video game you play, typically on a computer, where you are asked to sort categories of pictures and words. For example, in the Black-White race attitude test, you sort pictures of European American faces and African American faces, Good words and Bad words in front of a computer. It turns out that most of us respond more quickly when the European American face and Good words are assigned to the same key (and African American face and Bad words are assigned to the other key), as compared to when the European American face and Bad words are assigned to the same key (and African American face and Good words are assigned to the other key). This average time differential is the measure of implicit bias. [If the description is hard to follow, try an IAT yourself at Project Implicit.]

Pervasive implicit bias (or "it ain't no accident")

It may seem silly to measure bias by playing a sorting game (i.e. the IAT). But, a decade of research using the IAT reveals pervasive reaction time differences in every country tested, in the direction consistent with the general social hierarchies: German over Turk (in Germany), Japanese over Korean (for Japanese), White over Black, men over women (on the stereotype of "career" versus "family"), light-skinned over dark skin, youth over elderly, straight over gay, etc. These time differentials, which are taken to be a measure of implicit bias, are systematic and pervasive. They are statistically significant and not due to random chance variations in measurements.

These pervasive results do not mean that everyone has the exact same bias scores. Instead, there is wide variability among individuals. Further, the social category you belong to can influence what sorts of biases you are likely to have. For example, although most Whites (and Asians, Latinos, and American Indians) show an implicit attitude in favor of Whites over Blacks, African Americans show no such preference on average. (This means, of course, that about half of African Americans do prefer Whites, but the other half prefer Blacks.)

Interestingly, implicit biases are dissociated from explicit biases. In other words, they are related to but differ sometimes substantially from explicit biases--those stereotypes and attitudes that we expressly self-report on surveys. The best understanding is that implicit and explicit biases are related but different mental constructs. Neither kind should be viewed as the solely "accurate" or "authentic" measure of bias. Both measures tell us something important.

that implicit biases are malleable and can be changed.

- An individual's motivation to be fair does matter. But we must first believe that there's a potential problem before we try to fix it.
- The environment seems to matter. Social contact across social groups seems to have a positive effect not only on explicit attitudes but also implicit ones.
- Third, environmental exposure to countertypical exemplars who function as "debiasing agents" seems to decrease our bias.
  - In one study, a mental imagery exercise of imagining a professional business woman (versus a Caribbean vacation) decreased implicit stereotypes of women. (Blair et al. 2001).
  - Exposure to "positive" exemplars, such as Tiger Woods and Martin Luther King in a history questionnaire, decreased implicit bias against Blacks. (Dasgupta & Greenwald 2001).
  - Contact with female professors and deans decreased implicit bias against women for college-aged women. (Dasgupta & Asgari 2004).
- Fourth, various procedural changes can disrupt the link between implicit bias and discriminatory behavior.
  - In a simple example, orchestras started using a blind screen in auditioning new musicians; afterwards women had much greater success. (Goldin & Rouse 2000).
  - In another example, by committing beforehand to merit criteria (is book smarts or street smarts more important?), there was less gender

discrimination in hiring a police chief. (Uhlmann & Cohen 2005).
  - In order to check against bias in any particular situation, we must often recognize that race, gender, sexual orientation, and other social categories may be influencing decisionmaking. This recognition is the opposite of various forms of "blindness" (e.g., color-blindness).

In outlining these findings of malleability, we do not mean to be Pollyanish. For example, mere social contact is not a panacea since psychologists have emphasized that certain conditions are important to decreasing prejudice (e.g., interaction on equal terms; repeated, non-trivial cooperation). Also, fleeting exposure to countertypical exemplars may be drowned out by repeated exposure to more typical stereotypes from the media (Kang 2005).

Even if we are skeptical, the bottom line is that there's no justification for throwing our hands up in resignation. Certainly the science doesn't require us to. Although the task is challenging, we can make real improvements in our goal toward justice and fairness.

The big picture (or "what it means to be a faithful steward of the judicial system")

It's important to keep an eye on the big picture. The focus on implicit bias does not address the existence and impact of explicit bias--the stereotypes and attitudes that folks recognize and embrace. Also, the past has an inertia that has not dissipated. Even if all explicit and implicit biases were wiped away through some magical wand, life today would still bear the burdens of an unjust yesterday. That said, as careful stewards of the justice system, we

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Glossary

Note: Many of these definitions draw from Jerry Kang & Kristin Lane, A Future History of Law and Implicit Social Cognition (unpublished manuscript 2009)

Attitude

An attitude is "an association between a given object and a given evaluative category." R.H. Fazio, et al., Attitude accessibility, attitude-behavior consistency, and the strength of the object-evaluation association, 18 J. EXPERIMENTAL SOCIAL PSYCHOLOGY 339, 341 (1982). Evaluative categories are either positive or negative, and as such, attitudes reflect what we like and dislike, favor and disfavor, approach and avoid. See also stereotype.

Behavioral realism

A school of thought within legal scholarship that calls for more accurate and realistic models of human decision-making and behavior to be incorporated into law and policy. It involves a three step process:

First, identify advances in the mind and behavioral sciences that provide a more accurate model of human cognition and behavior.

Second, compare that new model with the latent theories of human behavior and decision-making embedded within the law. These latent theories typically reflect "common sense" based on naïve psychological theories.

Third, when the new model and the latent theories are discrepant, ask lawmakers and legal institutions to account for this disparity. An accounting requires either altering the law to comport with more accurate models of thinking and behavior or providing a

transparent explanation of "the prudential, economic, political, or religious reasons for retaining a less accurate and outdated view." Kristin Lane, Jerry Kang, & Mahzarin Banaji, Implicit Social Cognition and the Law, 3 ANNU. REV. LAW SOC. SCI. 19.1-19.25 (2007)

Dissociation

Dissociation is the gap between explicit and implicit biases. Typically, implicit biases are larger, as measured in standardized units, than explicit biases. Often, our explicit biases may be close to zero even though our implicit biases are larger.

There seems to be some moderate-strength relation between explicit and implicit biases. See Wilhelm Hofmann, A Meta-Analysis on the Correlation Between the Implicit Association Test and Explicit Self-Report Measures, 31 PERSONALITY & SOC. PSYCH. BULL. 1369 (2005) (reporting mean population correlation r=0.24 after analyzing 126 correlations). Most scientists reject the idea that implicit biases are the only "true" or "authentic" measure; both explicit and implicit biases contribute to a full understanding of bias.

Explicit

Explicit means that we are aware that we have a particular thought or feeling. The term sometimes also connotes that we have an accurate understanding of the source of that thought or feeling. Finally, the term often connotes conscious endorsement of the thought or feeling. For example, if one has an explicitly positive attitude toward chocolate, then one has a positive attitude, knows that one has a positive attitude, and consciously endorses and celebrates that preference. See also implicit.

Validities

To decide whether some new instrument and findings are valid, scientists often look for various validities, such as statistical conclusion validity, internal validity, construct validity, and predictive validity.

- Statistical conclusion validity asks whether the correlation is found between independent and dependent variables have been correctly computed.
- Internal validity examines whether in addition to correlation, there has been a demonstration of causation. In particular, could there be potential confounds that produced the correlation?
- Construct validity examines whether the concrete observables (the scores registered by some instrument) actually represent the abstract mental construct that we are interested in. As applied to the IAT, one could ask whether the test actually measures the strength of mental associations held by an individual between the social category and an attitude or stereotype
- Predictive validity examines whether some test predicts behavior, for example, in the form of evaluation, judgment, physical movement or response. If predictive validity is demonstrated in realistic settings, there is greater reason to take the measures seriously.

Laurie A. Rudman & Peter Glick, Prescriptive Gender Stereotypes and Backlash Toward Agentic Women, 57 J. Soc. Issues 743 (2001)

Luciano Arcuri et al., Predicting the Vote: Implicit Attitudes as Predictors of the Future Behavior of Decided and Undecided Voters, 29 Political Psychology369

Matthew K. Knock & Mahzarin R. Banaji, Prediction of Suicide Ideation and Attempts Among Adolescents Using a Brief Performance-Based Test, 75 J. Clinical & Consulting Psychology 707 (2007).

Nicola S. Gray, et al., An Implicit Test of the Associations Between Children and Sex in Pedophiles, 114 J. Abnormal Psych. 304 (2005)

Nilanjana Dasgupta & Anthony G. Greenwald, On the Malleability of Automatic Attitudes: Combating Automatic Prejudice with Images of Admired and the Disliked Individuals, 81 J. Person. & Soc. Psych.800 (2001)

Nilanjana Dasgupta & Shaki Asgari, Seeing is Believing: Exposure to Counterstereotypic Women Leaders and Its Effect on the Malleability of Automatic Gender Stereotyping, 40 J. Experimental Soc. Psychol. 642 (2004)

R. Richard Banks, Jennifer L. Eberhardt, Lee Ross, Discrimination and Implicit Racial Bias in a Racially Unequal Society. 94 Calif. Law Rev. 1169 (2006)

William Von Hippel et al., The Linguistic Intergroup Bias As an Implicit Indicator of Prejudice, 33 J. Experimental Soc. Psychol. 490 (1997)

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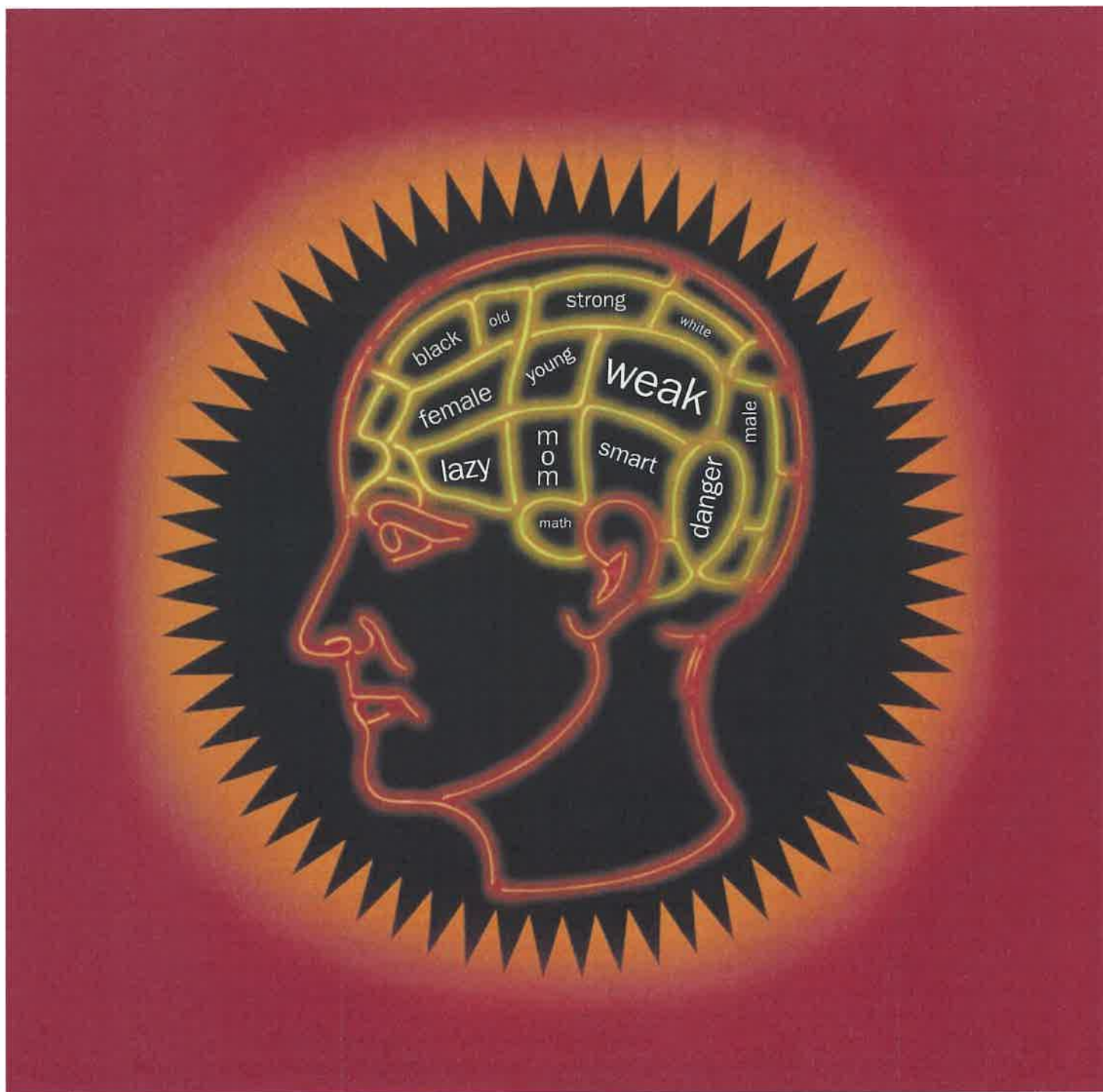
Sticking Together

Implicit biases grow out of normal and necessary features of human cognition, such as our tendency to categorize, to form cliques and to absorb social messages and cues. To make sense of the world around us, we put things into groups and remember relations between objects and actions or adjectives: for instance, people automatically note that cars move fast, cookies taste sweet and mosquitoes bite. Without such deductions, we would have a lot more trouble navigating our environment and surviving in it.

Such associations often reside outside conscious understanding; thus, to measure them, psychologists rely on indirect tests that do not depend on people's ability or willingness to reflect on their feelings and thoughts. Several commonly used methods gauge the speed at which people associate words or pictures representing social groups—young and old, female and male, black and white, fat and thin, Democrat and Republican, and so on—with positive or negative words or with particular stereotypic traits [*for one example, see box on page 39*].

Because closely associated concepts are essentially linked together in a person's mind, a person will be faster to respond to a related pair of concepts—say, "hammer and nail"—than to an uncoupled pair, such as "hammer and cotton ball." The timing of a person's responses, therefore, can reveal hidden associations such as "black and danger" or "female and frail" that form the basis of implicit prejudice. "One of the questions that people often ask is, 'Can we get rid of implicit associations?'" says psychologist Brian A. Nosek of the University of Virginia. "The answer is no, and we wouldn't want to. If we got rid of them, we would lose a very useful tool that we need for our everyday lives."

The problem arises when we form associations that contradict our intentions, beliefs and values. That is, many people unwittingly associate "female" with "weak," "Arab" with "terrorist," or "black" with "criminal," even though such stereotypes undermine values such as fairness and equality that many of us hold dear.

Self-interest often shores up implicit biases. To bolster our own status, we are predisposed to ascribe superior characteristics to the groups to which we belong, or in-groups, and to exaggerate differences between our own group and outsiders [see "The New Psychology of Leadership," by Stephen D. Reicher, S. Alexander Haslam and Michael J. Platow; SCIENTIFIC AMERICAN MIND, August/September 2007].

Even our basic visual perceptions are skewed toward our in-groups. Many studies have shown that people more readily remember faces of their own race than of other races. In recent years, scientists have begun to probe the neural basis for this phenomenon, known as the same-race memory advantage. In a 2001 study neurosurgeon Alexandra J. Golby, now at Harvard Medical School, and her colleagues used functional magnetic resonance imaging to track people's brain activity while they viewed a series of white and black faces. The researchers found that individuals exhibited greater activity in a brain area involved in face recognition known as the fusiform face area [see "A Face in the Crowd," by Nina Bublitz, on page 58] when they viewed faces of their own racial group than when they gazed at faces of a different race. The more strongly a person showed the same-race memory advantage, the greater this brain difference was.

This identification with a group occurs astoundingly quickly. In a 2002 study University of Washington psychologist Anthony G. Greenwald and his colleagues asked 156 people to read the names of four members of two hypothetical teams, Purple and Gold, then spend 45 seconds memorizing the names of the players on just one team. Next, the participants performed two tasks in which they quickly sorted the names of team members. In one task, they grouped members of one team under the concept "win" and those of the other team under "lose," and in the other they linked each team with ei-

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FAST FACTS
Subliminal Stereotyping

1 >> All of us hold unconscious clichéd beliefs about social groups: black and white, female and male, elderly and young, gay and straight, fat and thin.

2 >> Such implicit bias is far more prevalent than the more overt, or explicit, prejudice that we associate with, for instance, the Ku Klux Klan or the Nazis.

3 >> Certain social scenarios can automatically activate implicit stereotypes and attitudes, which then can affect our perceptions, judgments and behavior, including the choice of whom to befriend, whom to hire and, in the case of doctors, what treatment to deliver.

4 >> Recent research suggests we can reshape our implicit attitudes and beliefs—or at least curb their effects on our behavior.

Dangerous Games

On February 4, 1999, four New York City police officers knocked on the apartment door of a 23-year-old West African immigrant named Amadou Diallo. They intended to question him because his physical description matched that of a suspected rapist. Moments later Diallo lay dead. The officers, believing that Diallo was reaching for a gun, had fired 41 shots at him, 19 of which struck their target. The item that Diallo had been pulling from his pocket was not a gun but his wallet. The officers were charged with second-degree murder but argued that at the time of the shooting they believed their lives were in danger. Their argument was successful, and they were acquitted.

In the Diallo case, the officers' split-second decision to open fire had massive, and tragic, consequences, and the court proceedings and public outcry that followed the shooting raised a number of troubling questions. To what degree are our decisions swayed by implicit social biases? How do those implicit biases interact with our more deliberate choices?

A growing body of work indicates that implicit attitudes do, in fact, con-taminate our behavior. Reflexive actions and snap judgments may be especially vulnerable to implicit associations. A number of studies have shown, for instance, that both blacks and whites tend to mistake a harmless object such as a cell phone or hand tool for a gun if a black face accompanies the object. This "weapon bias" is especially strong when people have to judge the situation very quickly.

In a 2002 study of racial attitudes and nonverbal behavior, psychologist John F. Dovidio, now at Yale University, and his colleagues measured explicit and implicit racial attitudes among 40 white college students. The researchers then asked the white participants to chat with one black and one white person while the researchers videotaped the interaction. Dovidio and his colleagues found that in these interracial interactions, the white participants' explicit attitudes best predicted the kinds of behavior they could easily control, such as the friendliness of their spoken words. Participants' nonverbal signals, however, such as the amount of eye contact they made, depended on their implicit attitudes.

As a result, Dovidio says, whites and blacks came away from the conversation with very different impressions of how it had gone. Whites typically thought the interactions had gone well, but blacks, attuned to whites' nonverbal behavior, thought otherwise. Blacks also assumed that the whites were conscious of their nonverbal behavior and blamed white prejudice. "Our society is really characterized by this lack of perspective," Dovidio says. "Understanding both implicit and explicit attitudes helps you understand how whites and blacks could look at the same thing and not understand how the other person saw it differently."

Implicit biases can infect more deliberate decisions, too. In a 2007 study Rutgers University psychologists Laurie A. Rudman and Richard D. Ashmore found that white people who exhibited greater implicit bias toward black people also reported a stronger tendency to engage in a variety of discriminatory acts in their everyday lives. These included avoiding or excluding blacks socially, uttering racial slurs and jokes, and insulting, threatening or physically harming black people.

In a second study reported in the same paper, Rudman and Ashmore set up a laboratory scenario to further examine the link between implicit bias against Jews, Asians and blacks and discriminatory behavior toward each of those groups. They asked research participants to examine a budget proposal ostensibly under consideration at their university and to make recommendations for allocating funding to student organizations. Students who exhibited

People tend to mistake a harmless object such as a wallet for a gun if a black face accompanies it. This "weapon bias" might have played a role in the tragic shooting of West African immigrant Amadou Diallo in New York City.

CHRIS HONDROS Getty Images

to society all weaken people's implicit racial and ethnic biases. In real college classrooms, students taking a course on prejudice reduction who had a black professor showed greater reductions in both implicit and explicit prejudice at the end of the semester than did those who had a white professor. And in a recent unpublished study Nilanjana Dasgupta, a psychologist at the University of Massachusetts Amherst, found that female engineering students who had a male professor held negative implicit attitudes toward math and implicitly viewed math as masculine. Students with a female engineering professor did not.

More than half a century ago the eminent social psychologist Gordon Allport called group labels "nouns that cut slices," pointing to the power of mere words to shape how we categorize and perceive others. New research underscores that words exert equal potency at an implicit level. In a 2003 study Harvard psychologist Jason Mitchell, along with Nosek and

Banaji, instructed white female college students to sort a series of stereotypically black female and white male names according to either race or gender. The group found that categorizing the names according to their race prompted a prowhite bias, but categorizing the same set of names according to their gender prompted an implicit profemale (and hence problack) bias. "These attitudes can form quickly, and they can change quickly" if we restructure our environments to crowd out stereotypical associations and replace them with egalitarian ones, Dasgupta concludes.

In other words, changes in external stimuli, many of which lie outside our control, can trick our brains into making new associations. But an even more obvious tactic would be to confront such biases head-on with conscious effort. And some evidence suggests willpower can work. Among the doctors in the thrombolytic drug study who were aware of the study's purpose, those who showed more im-

plicit racial bias were more likely to prescribe thrombolytic treatment to black patients than were those with less bias, suggesting that recognizing the presence of implicit bias helped them offset it.

In addition, people who report a strong personal motivation to be nonprejudiced tend to harbor less implicit bias. And some studies indicate that people who are good at using logic and willpower to control their more primitive urges, such as trained meditators, exhibit less implicit bias. Brain research suggests that the people who are best at inhibiting implicit stereotypes are those who are especially skilled at detecting mismatches between their intentions and their actions.

But wresting control over automatic processes is tiring and can backfire. If people leave interracial interactions feeling mentally and emotionally drained, they may simply avoid contact with people of a different race or foreign culture. "If you

Some good news: people who report a strong motivation to be nonprejudiced tend to harbor less implicit bias.

Revealing Remarks

After shouting a series of racist slurs during a performance, comedian Michael Richards of *Seinfeld* fame apologized to a late-night television audience: "I went into a rage.... I'm deeply, deeply sorry ... I'm not a racist."

For making anti-Semitic remarks during a drunk-driving arrest, actor Mel Gibson (*left*) pleaded with the public: "Please know from my heart that I am not an anti-Semite. I am not a bigot. Hatred of any kind goes against my faith."

Apologizing for an antigay slur on television, comedian Jerry Lewis said, "Everyone who knows me understands that I hold no prejudices in this regard."

And backing away from intimations that black people are not as intelligent as whites, biologist and Nobel laureate James Watson (*right*) expressed bewilderment and contrition: "I cannot understand how I could have said

what I am quoted as having said. There is no scientific basis for such a belief."

These public apologies betray a naïveté about the nature of prejudice. Because most people have no conception of the bias in all of us, they react with shock and alarm when racist, anti-Semitic or antigay remarks surface from those they admire, and the offenders are sometimes similarly perplexed. But to know how the mind works is to better understand the origins of such unappealing utterances: they stem, of course, from subconscious connections embedded in all our minds [see *accompanying main article*]. And the unsettling truth is that just about any of us could have made them. After all, we cannot fully choose our attitudes, because our conscious minds are not always in the driver's seat; thus, *wanting* to be nonprejudiced is not the same as *being* nonprejudiced.   —S.C.

JOE FOX Getty Images (*left*); RICK FRIEDMAN Corbis (*right*)

PERCEPTION INSTITUTE
Research. Representation. Reality.

textured hairstyles
or
Pleasant

smooth hairstyles
or
Unpleasant

When the items belong to a category on the left, press the E key. When the items belong to a category on the right, press the I key.

THE "GOOD HAIR" STUDY:

EXPLICIT AND IMPLICIT ATTITUDES TOWARD BLACK WOMEN'S HAIR

February 2017

www.goodhairstudy.com

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This report presents preliminary findings from the "Good Hair" Study, an original research study conducted by Perception Institute in 2016 that examined attitudes toward black women's hair and created the first Hair Implicit Association Test (Hair IAT) to measure implicit bias against textured hair as well as an online survey to gauge explicit attitudes about how natural textured hair is perceived. Bias has been shown to correlate with discriminatory behavior such as rejection, avoidance, and abuse. As a result, the concern of this study was to determine the risk of discrimination against black women who wear their hair naturally.

WHAT IS "HAIR BIAS"?

In April 2016, SheaMoisture brand launched the provocative "Break the Walls" campaign challenging the beauty and retail industries to address the aisle 'segregation' of hair products by race. In most stores, hair products catering towards natural and textured hair are often located in the "ethnic" section while products designed for those with straight and smooth hair are often located in the "beauty" section. Whether or not this product placement separation is a function of intentional store policies or merely 'de facto' industry best practices, "Break the Walls" charged that routine black hair care product placement away from the 'beauty' aisle confers, at minimum, a subliminal message that naturally textured hair is inferior, less desirable, and less beautiful.

Product placement is, of course, but one manifestation of how hair standards are normalized within a larger culture of beauty. Powered by editorial, advertising, fashion, Hollywood, and social media, the beauty industry drives our visual intake daily. Our perceptions stem largely from implicit visual processes, and as a result, our brains' repeated exposure to smooth and silky hair linked to beauty, popularity, and wealth creates associations that smooth and silky hair is the beauty default. Naturally textured hair of black women, by comparison, is notably absent within dominant cultural representation which automatically 'otherizes' those natural images we do see — at best they are exotic, counter cultural, or trendy; more often than not, they are marginal.

Inspired by the questions that Break the Walls raised, Perception Institute set out to explore bias within the beauty industry — specifically to identify and break the 'mental walls' of hair bias — negative stereotypes or attitudes that manifest unconsciously or consciously, towards natural or textured hair. Hair bias against natural or textured hair has a distinct impact on black women for whom textured hair is their "normal." To be clear, harms linked to racial bias against black women have been well documented — in health care, policing, education, and the workplace. Increasingly, harms related to racialized gender bias are being examined to understand why black women experience higher rates of intimate partner violence, sexual prejudice, and fear isolation more than their white counterparts.

Given what we know about other forms of bias, this study asks whether hair bias affects perceptions of beauty, self-esteem, sense of professionalism, and by extension, workplace opportunities for those whose hairstyles fall outside of the dominant norm. Moreover, if hair bias is present, do black women who wear their hair naturally perceive social stigma as it relates to their own hair choices vis-à-vis dominant norms? Last, amid a growing natural hair movement among black women, can the science offer any solutions that can help reduce bias and promote positive perceptions of natural hair, both for women themselves and among others who see them?

HOW DO WE MEASURE EXPLICIT AND IMPLICIT HAIR BIAS?

Racial bias, or undue prejudice against a racial group, can manifest as explicit bias, implicit bias, or as both explicit and implicit bias. *Explicit bias* refers to the negative attitudes and beliefs we have about a racial group, deliberately formed on a conscious level. Even in our current era in which explicit bias against some groups, such as Muslims, is considered acceptable in some cases, openly anti-black racist comments continue to trigger widespread condemnation. Researchers, however, are able to measure explicit bias through survey instruments and observation.

Implicit bias refers to embedded negative stereotypes our brains automatically associate with a particular group of people. Implicit biases are often inconsistent with our conscious beliefs. That is to say, we can simultaneously reject stereotypes and endorse egalitarian values on a conscious level and also hold negative associations about others or ourselves unconsciously. Implicit bias can affect our decisions and behavior toward people of other races and, therefore, lead to differential treatment. Implicit bias is frequently measured by an Implicit Association Test (IAT) which assesses how strongly we associate certain concepts — such as race — with stereotypes or attitudes by observing how quickly or slowly

within the natural hair community and bias against tighter curl types, and what natural hair styles are considered "professional." It is no surprise that beauty industries, both of color and mainstream, have jumped at the chance to develop products to meet the naturalista communities' growing demands and needs, and engage in dialogue and support as well.

Yet, despite the growing natural hair movement, recent existing research suggests that the "good hair" standard may still have a meaningful effect on the way that black women are perceived and treated, depending on how they wear their hair. In 2016, Rudman and McLean measured black men and women's explicit reactions to photos of celebrities (famous black women such as Janet Jackson, Viola Davis, and Solange Knowles) with natural and smooth hairstyles. The study found that overall, the participants preferred smooth hair, but the black women expressed no preference. Further, other researchers have recognized the potential link between hair and bias. A 2016 study by health researchers found that black adolescent girls (ages 14-17) might avoid exercise due to concerns about sweat affecting their hair. In focus groups, the girls reported that they avoided getting wet or sweating during exercise because their straightened hair became "nappy" (Woolford et al., 2016). The girls identified natural hairstyles as better for exercise but as less attractive than straightened hair. Similar to the Rudman study, when shown pictures of celebrities with various hairstyles, the girls showed a preference for longer, straighter hair.

From the perceptions of professionalism in the workplace, the first impression of a potential employer in a job interview, or the notions of healthy and beauty in every sector — attitudes toward black women's hair can shape opportunities in these contexts, and innumerable others. It is critical, therefore, to understand how "hair bias" operates and develop solutions to disrupt and mitigate its effects.

THE "GOOD HAIR" STUDY

The "Good Hair" Study aimed to generate and compare data on implicit and explicit attitudes toward black women's hair. The comparison between these two forms of data helps explore the racial paradox: the coexistence of positive egalitarian racial values alongside strong implicit biases favoring whiteness. This paradox demonstrates the durability of implicit bias despite conscious beliefs, and it is meaningful because implicit bias is a greater predictor of our behavior than our conscious values (Greenwald et al., 2009). In addition to attitudes, the "Good Hair" Study also explored perceptions of social stigma and concerns that might affect women's hair maintenance. The research included a national sample of black women, white women, black men, and white men. Additionally, we obtained a sample of black and white women who are part of an online naturalista hair community to represent responses from the natural hair movement. Our research questions and hypotheses are organized into four distinct categories: explicit bias, social stigma, hair anxiety, and implicit bias.

RESEARCH QUESTIONS & HYPOTHESES

Explicit Bias

Q1: On average, what are the explicit attitudes about the beauty, attractiveness, and professionalism of black women's textured hair? Does engagement in a naturalista community affect explicit attitudes? Do explicit attitudes about textured hair differ by generation?

> **Hypothesis 1:** *We expected white women to consider smooth hairstyles on black women more beautiful, more sexy, and more professional compared to textured hairstyles.*
>
> **Hypothesis 2:** *We expected black women in the national sample would be neutral in their ratings of beauty and sexiness, but would rate smooth hairstyles as more professional than textured hairstyles.*
>
> **Hypothesis 3:** *We expected members of the naturalista community to consider textured hairstyles as more beautiful, more sexy, and more professional than smooth hairstyles.*
>
> **Hypothesis 3b:** *We expected millennial naturalistas would not express explicit preferences for smooth hairstyles.*

Social Stigma

Q2: How do women perceive attitudes toward black women's textured hair in the US?

> **Hypothesis 4:** *Regardless of their personal explicit attitudes toward hair, we expected all women would perceive that US attitudes prefer smooth hair over textured hair.*

Hair Anxiety

Q3: To what extent do women experience concern or anxiety about hair maintenance or hold negative feelings about their hair related to exercise, intimacy, queries to have their hair touched, etc.?

> **Hypothesis 5:** *We expected black women overall to report a greater burden of hair anxiety and related impact than white women.*

prompted to rate each photo in terms of how most people in the US would rate each hairstyle. Including perceptions of US attitudes allows us to understand perceptions of social stigma related to textured hair.

## 2. The Hair Implicit Association Test (Hair IAT): Assessing Implicit Attitudes

As part of the "Good Hair" Study, Perception Institute designed the first Implicit Association Test (IAT) to assess implicit attitudes toward black women's hair: the Hair IAT. The IAT (Greenwald et al., 1998) is a computerized task in which participants see images of faces from different identity groups and are asked to associate the images with positive and negative words. A faster association between a group and negative words indicates implicit bias against that group. Versions of the IAT have been used in thousands of research studies to measure implicit bias related to race, gender, sexual orientation, and other aspects of identity. In the IAT, images appear along with pleasant ("love," "peace," "happy," "laughter," and "pleasure") and unpleasant ("death," "sickness," "hatred," "evil," and "agony") words (Greenwald et al., 1998). For the purposes of this study, a faster association between smooth styles and pleasant words, or between

textured styles and unpleasant words, indicates implicit bias against textured hair.

The images for the Hair IAT and the "Good Hair" Survey were created in conjunction with a creative team at SheaMoisture, a subsidiary of Sundial Brands (see images below). SheaMoisture provided the model with wigs in a number of typically worn textured (afro, dreadlocks, twist-out, braids) and smooth (straight, long curls, short curls, and pixie cut) styles, as well as a makeup and hairstyle artist to showcase both the model and the hairstyle in the best possible light. To ensure the key factor being assessed was hair, the same model was pictured wearing all of the hairstyles. The same images of the woman were used in both the Hair IAT and in the "Good Hair" Survey of explicit attitudes.

The model in the images was chosen from a set of black and white models that had been previously validated for attractiveness. The process for validation involved rating model headshots through an online review panel. Attractiveness ratings are typically used for comparison among subjects, and a component of the original study design included evaluating implicit bias toward a white model wearing the same textured and smooth wigs as the black model. While the findings presented here are related to hair textures on the black

IMAGES OF TEXTURED STYLES

Afro

Dreads

Twist-out

Braids

IMAGES OF SMOOTH STYLES

Straight

Long Curls

Short Curls

Pixie
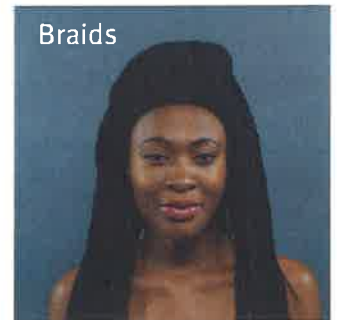
PERSONAL ATTITUDES

502 women in the national sample and 688 women from the natural hair community rated each hairstyle on a scale from 1 to 5 in terms of how beautiful, sexy/attractive, and professional they thought it was.

We compared the scores of women in the national sample and natural hair community, by race (national sample: 255 black women and 247 white women; natural hair community: 468 black women and 220 white women).

We illustrate explicit attitudes toward textured and smooth hairstyles by showing detailed findings toward the afro (textured) and long waves (smooth). Findings related to the other six hairstyles are available in an Appendix available at www.goodhairstudy.com.
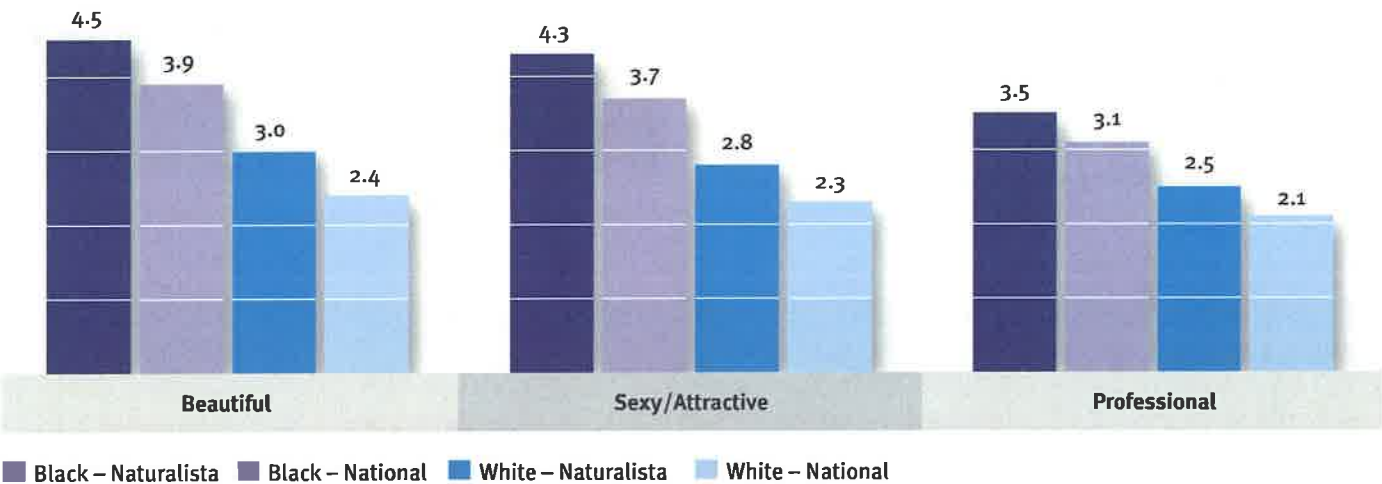
Table 1 represents the average ratings toward the afro hairstyle, by racial group. The findings demonstrate that black women overall rate the afro significantly more positively on each of the characteristics than white women (p<.001).

As Figure 1 illustrates, black naturalistas hold the most positive attitudes toward the afro hairstyle – their attitudes are significantly more positive than black women in the national sample (p<.001), as well as white naturalistas (p<.001), on ratings of beauty, sexy/attractiveness, and professionalism. While their ratings are lower than black women in the national sample, white naturalistas hold significantly more positive attitudes toward the afro hairstyle than white women in the national sample, on all characteristics (p<.001).

TABLE 1. AVERAGE ATTITUDES TOWARD TEXTURED HAIR –
AFRO

	Black Women	White Women
Beautiful	4.3	2.6
Sexy/Attractive	4.1	2.5
Professional	3.4	2.3

FIGURE 1. EXPLICIT ATTITUDES TOWARD TEXTURED HAIR, BY GROUP – AFRO

Beautiful: 4.5, 3.9, 3.0, 2.4
Sexy/Attractive: 4.3, 3.7, 2.8, 2.3
Professional: 3.5, 3.1, 2.5, 2.1

■ Black – Naturalista ■ Black – National ■ White – Naturalista ■ White – National

SOCIAL STIGMA

502 women in the national sample and 688 women from the natural hair community rated each hairstyle on a scale from 1 to 5 in terms of how beautiful, sexy/attractive, and professional they thought the US would rate the hairstyle.

We compared the scores of women in the national sample and natural hair community, by race (national sample: 255 black women and 247 white women; natural hair community: 468 black women and 220 white women).
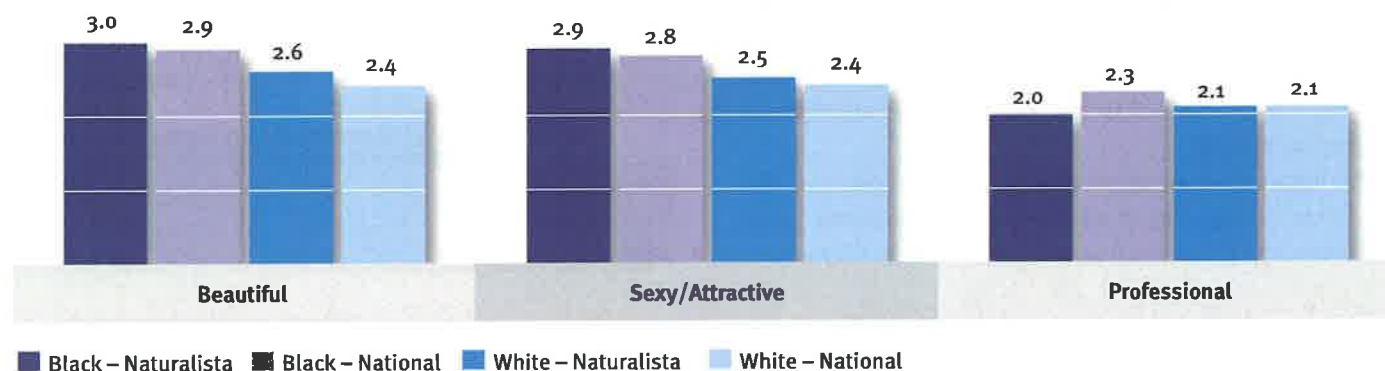
Table 3 represents the average perceptions of US attitudes toward the afro hairstyle, by racial group. The findings demonstrate that white women perceive the US to rate the afro significantly more negatively on beauty and sexy/attractiveness than black women (p<.001). Black and white women perceive that the US rates the afro similarly low on professionalism.

As Figure 3 illustrates, while black naturalistas and black women in the national sample have similar perceptions of US attitudes linked to beauty and sexy/attractiveness of the afro, black naturalistas perceive that the US thinks the afro is significantly less professional (p<.01). White women in the national and naturalista samples have similar perceptions of US attitudes toward the afro.

TABLE 3. AVERAGE PERCEIVED ATTITUDES TOWARD
TEXTURED HAIR – AFRO

	Black Women	White Women
Beautiful	2.9	2.5
Sexy/Attractive	2.9	2.4
Professional	2.1	2.1

FIGURE 3. PERCEIVED ATTITUDES TOWARD TEXTURED HAIR, BY GROUP – AFRO

Beautiful: 3.0 2.9 2.6 2.4
Sexy/Attractive: 2.9 2.8 2.5 2.4
Professional: 2.0 2.3 2.1 2.1

■ Black – Naturalista ■ Black – National ■ White – Naturalista ■ White – National

WHAT IS "GOOD HAIR" ANYWAY?

"My hair."
- Black woman, naturalista, age 47

"Hair that is acceptable to the majority of society. Smooth and silky to touch."
- Black woman, age 50

- Selected "Good Hair" Survey responses, August 2016

As part of the "Good Hair" Survey, we asked women what "good hair" means to them. Overall, women described "good hair" as hair that is manageable and is healthy. The emphasis was on the texture of the hair: women describe "good hair" as straight, smooth, silky, and soft, not frizzy or "kinky." They emphasize that this is hair someone has naturally – "no chemicals needed." Some women link good hair to whiteness, explaining that the "good hair" standard is based on the type of hair that white women have, and is often hair that biracial women have.

HAIR ANXIETY

The "good hair" standard is powerful in shaping social perceptions of hair and black women's experiences in relation to this norm. In our study, we found that **almost all women worry about their hair to some extent, but black women experience high levels of anxiety more than**
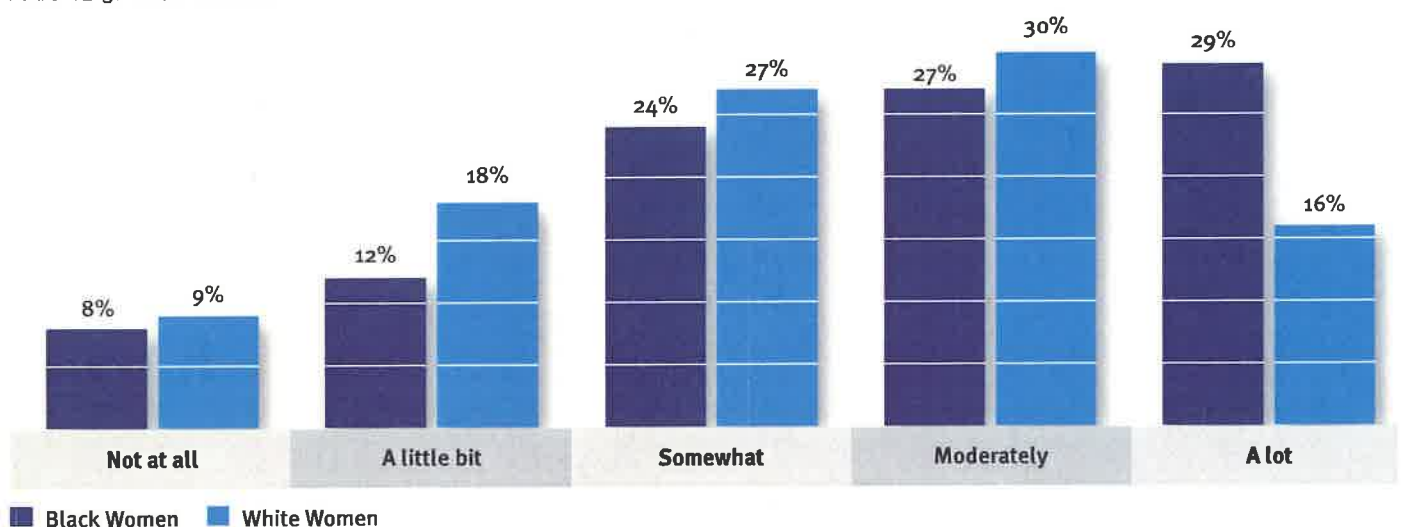
white women. Stories about black women not swimming or exercising because of hair maintenance abound. The "Good Hair" Study found that hair is a critical factor in these decisions: **one in three black women report that their hair is the reason they haven't exercised, compared to one in ten white women.**

The study also found that hair styling and maintenance is a greater financial and social burden for black women than white women, which may affect choices about various activities. For example,

♦ Black women are more likely to report spending more time on their hair than white women.

♦ Black women are more likely to report having professional styling appointments more often than white women.

♦ Black women are more likely to report spending more money on products for their hair than white women.

♦ One in four black women have difficulty finding products for their hair—more than half have not been able to find products for their hair at some point.

We asked women, *how much do you worry about your hair?* As demonstrated in Figure 5, black women report a greater burden of anxiety related to their hair than white women.

FIGURE 5. HAIR ANXIETY

	Not at all	A little bit	Somewhat	Moderately	A lot
Black Women	8%	12%	24%	27%	29%
White Women	9%	18%	27%	30%	16%

■ Black Women ■ White Women

TABLE 5. HAIR IAT RESULTS – IMPLICIT ATTITUDES TOWARD BLACK WOMEN'S HAIR

	National Sample				Natural Hair Community	
	Black Men	White Men	Black Women	White Women	Black Women	White Women
Average IAT Score	-0.31	-0.49	-0.39	-0.6	-0.08	-0.49
Interpretation of IAT Score	Slight-to-moderate pro-smooth	Moderate pro-smooth	Moderate pro-smooth	Moderate-to-strong pro-smooth	Neutral	Moderate pro-smooth
Percentage Breakdown						
Slight pro-texture	18%	5%	13%	3%	33%	5%
Neutral	18%	13%	17%	4%	22%	12%
Slight pro-smooth	17%	13%	14%	13%	17%	20%
Moderate pro-smooth	20%	33%	22%	37%	14%	24%
Strong pro-smooth	28%	36%	34%	44%	14%	39%

Note: Conventional d score cut-offs were used: "strong" (>0.65), "moderate" (0.35–0.64), "slight" (0.15–0.34), and "neutral" (0–0.14) (Greenwald, Nosek & Banaji, 2003)

DO WE HAVE IMPLICIT BIAS AGAINST NATURAL HAIR?

♦ **A majority of participants, regardless of race, show implicit bias against textured hair.**

♦ **Black women who are part of an online natural hair community are more likely to show a preference for black women's textured hair.**

♦ **White women in the natural hair community are three times more likely to be neutral than white women in the national sample, though the majority still show preference for smooth hair.**

Results from the Hair IAT demonstrate what we hypothesized – that many of us hold implicit bias against textured hair.

Among men and women, white participants show stronger levels of implicit bias against textured hair than black participants. White women in the natural hair community are three times more likely to be neutral than white women in the national sample, but the majority still show preference for smooth hair.

A majority of black women in the natural hair community show either no bias or a slight preference for textured hair. A third of black women show preference for textured hair.

Table 5 provides a summary of the IAT results. The results are presented in three forms: the average IAT score for each subgroup, the scientific interpretation of the average score, and the breakdown of the percentage of people within

the subgroup who hold each level of bias, from slight pro-texture to strong pro-smooth. We draw attention to the large proportion of naturalista black women who are pro-texture, as contrasted to black women in the national sample, and the large proportions of white women who are pro-smooth – these are circled in red.

DISCUSSION

How women wear their hair matters both personally and professionally. However, the attitudes and biases with respect to textured hairstyles for black women is distinct and acute, and will have different implications depending on who holds the bias, what hairstyle choices they are making, and what social pressure they are navigating.

Our hypotheses regarding black women in the national sample were confirmed and reveal a "hair paradox": on average, they have positive explicit attitudes toward textured hair, but the majority have implicit bias against textured hair. They also experience significant social pressure to keep hair maintained and straight for professional reasons.

A critical finding of this study is that black women in the natural hair community do not suffer from this paradox. They have positive explicit attitudes toward textured hair – a full third show implicit preference for textured hair, and on average they are equally positive toward textured and smooth hair. **Black women in the natural hair community have more positive implicit and explicit attitudes toward textured hair than all other women, even black women in the national sample who say they are part of the "natural hair movement."** The differences in implicit
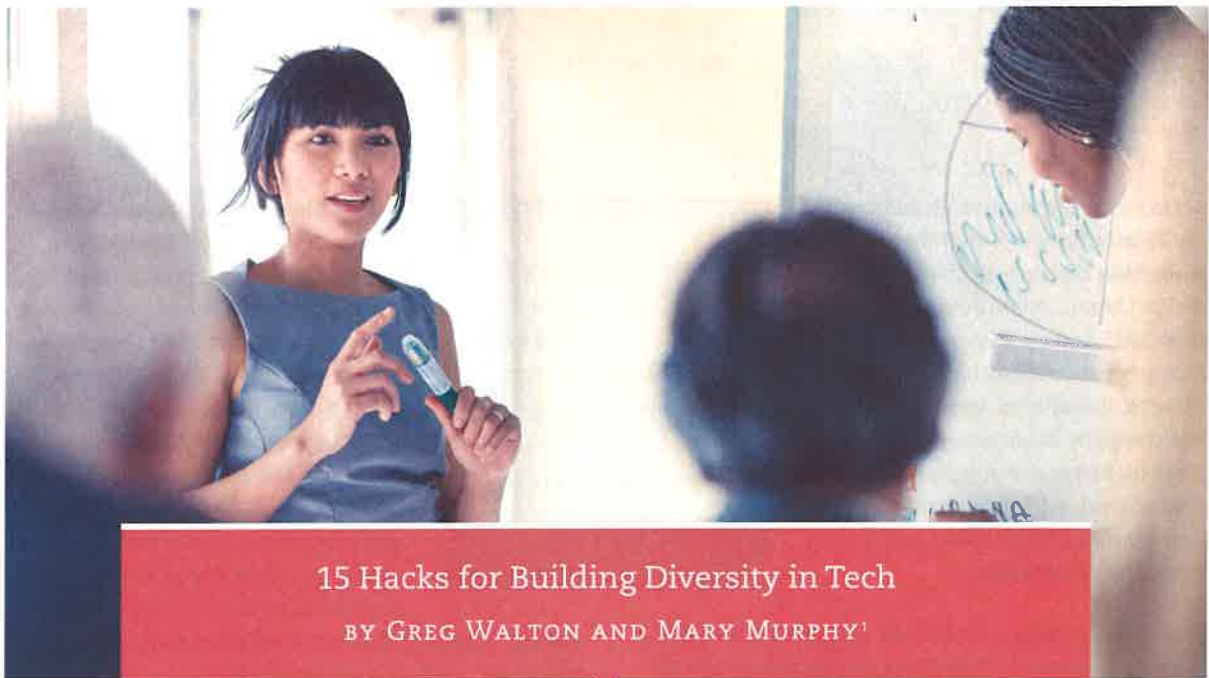
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REFERENCES

Arogundade, B. (2000). Black beauty: A history and a celebration. London, UK: Thunder's Mouth Press.

Banks, I. (2000). *Hair matters: Beauty, power and Black women's consciousness.* New York, NY: New York University Press.

Caldwell, P. M. (1991). A hair piece: Perspectives on the intersection of race and gender. *Duke Law Journal,* 1991(2), 365–396.

Craig, M. L. (2006). Race, beauty, and the tangled knot of a guilty pleasure. *Feminist Theory,* 7(2), 159–177.

Goff, P. A., Thomas, M. A., & Jackson, M. C. (2008). "Ain't I a woman?": Towards an intersectional approach to person perception and group-based harms. *Sex Roles,* 59(5–6), 392–403.

Greenwald, A. G., Banaji, M. R., & Nosek, B. A. (2015). Statistically small effects of the Implicit Association Test can have societally large effects. *Journal of Personality and Social Psychology,* 108(4), 553–561.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: the implicit association test. *Journal of Personality & Social Psychology,* 74(6), 1464–80.

Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the implicit association test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology,* 85(2), 197–216.

Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology,* 97(1), 17–41.

Pew Research Center (2015). *Exploring Racial Bias Among Biracial and Single-Race Adults: The IAT.* Retrieved from: http://www.pewsocialtrends.org/files/2015/08/2015-08-17_IAT.pdf

Robinson, C. L. (2011). Hair as Race: Why "Good Hair" May Be Bad for Black Females. *Howard Journal of Communications,* 22(4), 358–376.

Rudman, L. A., & McLean, M. C. (2016). The role of appearance stigma in implicit racial in-group bias. *Group Processes & Intergroup Relations,* 19(3), 374–393.

Woolford, S. J., Woolford-Hunt, C. J., Sami, A., Blake, N., & Williams, D. R. (2016). No sweat: African American adolescent girls' opinions of hairstyle choices and physical activity. *BMC Obesity,* 3(1), 31–38.

15 Hacks for Building Diversity in Tech
BY GREG WALTON AND MARY MURPHY[1]

Policymakers and many tech leaders want to ensure that the American tech industry reflects the diversity of our society. How can we capture the talents and contributions of people from diverse backgrounds who aren't now well represented in tech?

SOCIAL PSYCHOLOGISTS HAVE SHOWN that seemingly small changes can sometimes have large effects on diversity, with effects that endure for years. How is this possible? It's not magic![2] Learn more—and attract people from diverse backgrounds to your company and help them thrive.

This brief describes **15 changes companies can make** to be more diverse and inclusive. These changes fall into four key areas:

- How to help everyone feel welcome
- How to hire the best talent
- How to promote mindsets that increase resilience on the job
- How to use everyday practices to help diverse teams function well

If you'd like more detail on any of these ideas, this folder[3] contains papers from the leading researchers who have pioneered work in these areas.

MAKING EVERYONE FEEL WELCOME

An important goal of any company is to make everyone feel welcome—and especially people from backgrounds that are different from the majority of the people in the company or the industry. The key is to communicate to people from underrepresented groups that they are valued members of the team.

1. Write job ads that include, not exclude
Job ads signal who belongs in a company from the very outset. Research by **Danielle Gaucher at the University of Winnipeg** shows that ads for male-dominated areas tend to use more words associated with male stereotypes (e.g., leader, dominant). That wording makes people think men dominate those settings and, in turn, undermines women's motivation to pursue those opportunities.[4]

2. Celebrate diversity—in everyone
Sure it'd be great to be color-blind—but no one really is. And if a company isn't very diverse, telling people of color that you "just don't see color" can come

> Touting the potential to work on collaborative teams in tech and to create products that make a real difference in society can help people see tech as an opportunity to achieve these communal goals—and thus inspire a new and more diverse generation of workers.

That makes people feel more comfortable, less stressed, and more committed to the organization.

Diverse hires also beget more diverse candidates. Satisfied employees are more likely to recommend the company to their networks of friends and family. That way diverse employees expand the pool of diverse candidates the company can tap in the future.

6. Communicate that tech is not just about me, me, me—it's also about working together, and making a difference

People differ in what motivates them on the job. Research by **Amanda Diekman at Miami University** shows that for many people, and especially for many women, communal motivations to work with others and to better society drive career choices. Yet people often see science and technology as individual pursuits with self-focused goals. That mismatch doesn't inspire women who hold more pro-social goals. Touting the potential to work on collaborative teams in tech and to create products that make a real difference in society can help people see tech as an opportunity to achieve these communal goals—and thus inspire a new and more diverse generation of workers.

> **Diverse employees expand the pool of diverse candidates the company can tap in the future.**

HIRING THE BEST TALENT

Everyone is exposed to common cultural stereotypes that allege that women are less capable in technical fields than men and that some racial and ethnic groups are less intelligent than others. Even if individuals reject those stereotypes, they can still prevent companies from hiring the best talent. First, it's easy for stereotypes to bias decision-making. When people evaluate candidates for a gender-typed position they tend to prefer candidates of the "right" gender—even when they are no more qualified.

7. Avoid bias in hiring, part 1: Commit to standards before looking at applicants

How can hiring teams overcome bias? Research by **Eric Uhlmann at INSEAD** shows that if decision-makers commit to their hiring criteria *before* evaluating applications—*What exactly do we need this person to be able to do? How important are different skills?*—this can eliminate biases. Then people rely on the candidate's qualifications, not their background.

8. Avoid bias in hiring, part 2: Think about a series of hires as creating a group

Another way to eliminate bias in hiring is to get people out of the mindset of hiring one individual person at a time. When people think of their hires as a series of independent decisions, decision-makers tend to look for the prototypical candidate with each hire—and that biases them toward the usual suspects. But strong teams make successful companies. And thinking about hires as creating a group naturally leads people to think about diversity.

Research by **Valerie Purdie-Vaughns at Columbia University** shows that when decision-makers think of their hires as a group—*What kind of team do I want to create?*—characteristics that emerge across the group become more obvious. It pushes people to ask: *How did my tech panel end up having five white men on it? How did I hire a team of five new engineers and they're all white or Asian men? Is that what I really want?* People generally don't want to be biased. Thinking about hiring as creating a group gives people a chance to self-correct.

9. Identify hidden talent

A second way stereotypes can prevent companies from hiring the best candidates is by causing bias in candidates' scores on critical qualifications, like prior test scores, grades, and even interview performance.

11. Tell stories to bolster belonging

One challenge of being in the minority is that when things go badly it's easy to wonder whether it means that people like you just don't belong. At times like this it can be essential to share stories that convey that everyone struggles at first—say, feels lonely or isolated, or is criticized—and that such struggles typically pass with time as people become more integrated in a setting. This knowledge helps people stay in the game.

Research by **Greg Walton at Stanford University** shows that sharing stories like this when people enter a new environment (e.g., during orientation), and giving them the opportunity to reflect on how this process has been true for them, can raise performance and well-being among members of underrepresented groups. One hour-long exercise raised African American students' GPA in a highly selective college over the next three years, halving the racial achievement gap. Another eliminated gender differences in GPA in the first year of a highly selective engineering program. Belonging exercises can help people see everyday difficulties as normal challenges to be overcome—not a permanent indictment of their belonging. Then they get back on their feet and build the friendships and mentor relationships that are key to success.

12. Incorporate personal values at work to help people feel like a whole person, not a stereotype

Another problem people face when they are negatively stereotyped in a setting is it can seem like all you are in that context is the negative stereotype—the old guy in the office, or the token woman in engineering. That makes challenges seem especially threatening. In this context, researchers have found that it can be helpful to give people an opportunity to connect with their broader values, what is really important to them, who they really are. That helps people feel less overwhelmed and better able to ride out stressors and challenges.

One way to do this is through value-affirmation exercises—brief writing tasks in which people reflect on personally important values in school or at work. Research by many scholars, especially **Geoff Cohen at Stanford University,** shows that these exercises can cause large and lasting gains in achievement for people who face negative stereotypes in a setting. One value-affirmation exercise reduced the gender gap in exam scores in college physics by 61% (after accounting for academic preparation).

In work settings, companies can think about how to encourage employees to bring their whole selves to work, such as posting pictures of their families and friends, encouraging employee clubs for non-work interests, or sponsoring activities that include employees' friends and families.

EVERYDAY PRACTICES THAT HELP DIVERSE TEAMS SUCCEED

You can get a diverse team in the door but that doesn't mean people will necessarily work well together. How can companies help diverse teams work effectively on a daily basis?

13. Train managers to tell subordinates why they are giving critical feedback

High quality critical feedback is both hard to give and incredibly valuable. What could be better than specific feedback on a project you're working on? The problem is it can turn people off. The problem is especially acute when criticism is given across group lines—when a White manager criticizes a Latino employee's work, or when a male engineer critiques his female staff's code. The subordinate can wonder whether the manager is biased thinks or they are incompetent.

Yet research by **Geoff Cohen at Stanford University** shows that a simple clarification—*Why am I giving you this critical feedback? Because this project is hard and I think you can do it*—can make all the difference. That

Summary of the 15 Hacks to Promote Diversity in Tech Companies

DIVERSITY CHALLENGE	POTENTIAL HACK
Making Everyone Feel Welcome	
Wording of job ads in male-dominated areas tend to use words associated with male stereotypes	**Write job ads that include, not exclude.** Alter words more associated with men (e.g., leader, dominant)
Non-diverse companies purporting to be "color-blind" come off as disingenuous	**Celebrate diversity—in everyone.** Emphasize diversity that people from all backgrounds contribute to the organization
Talking about identifying natural talent sends the message to women and people of color that the company is looking for white or Asian men	**Talk about growing talent, not finding the (boy) geniuses.** Convey the company's mission is to find and promote passionate hard-workers who want to grow
Environmental cues reinforce narrow stereotypes about what kinds of people belong in that setting	**Take down the Star Trek posters!** Promote balance in physical environments
Underrepresented groups feel pressure to represent their group, causing discomfort and added stress	**Prioritize diversity and show off that diversity.** Hiring diverse workers signals their value and attracts more diversity to a company
Stereotypes about tech suggest it is individualistic, which doesn't appeal to some groups that more often hold communal goals	**Communicate that tech is not just about me—it's also about working together and making a difference.** Tout work on teams and products that help society
Hiring the Best Talent	
Biases from stereotypes about what type of people fill which roles can inadvertently influence the selection of candidates	**Commit to standards before looking at applicants.** Avoid bias in hiring by laying out qualifications up front **Think about a series of hires as creating a group.** Thinking about hiring as building a team vs. getting a series of individuals encourages more diverse hiring
Worries about confirming negative stereotypes can artificially depress performance on key qualifications	**Identify hidden talent.** Minimize stereotype threat in the interview process and be aware that the same score may not mean the same thing for everyone

All of the published articles listed below are available in this dropbox folder (/tinyurl.com/15hacks-PDFs).

Review Articles

Walton, G. M., Murphy, M. C., & Ryan, A. M. (2015). Stereotype threat in organizations: Implications for equity and performance. In F. P. Morgeson, H. Aguinis, & S. J. Ashford (Eds.) Annual Review of Organizational Psychology and Organizational Behavior.

Yeager, D. S. & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. Review of Educational Research, 81, 267-301.

Making Everyone Feel Welcome

1. Write job ads that include, not exclude
Gaucher, D., Friesen, J., & Kay, A. C. (2011). Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology, 101,* 109-128.

2. Celebrate diversity—in everyone
Purdie-Vaughns, V., Steele, C. M., Davies, P. G., Ditlmann, R., & Crosby, J. R. (2008). Social identity contingencies: How diversity cues signal threat or safety for African Americans in mainstream institutions. *Journal of Personality and Social Psychology, 94,* 615-630

Plaut, V. C., Garnett, F. G., Buffardi, L., & Sanchez-Burks, J. (2011). What about me? Perceptions of exclusion and Whites' reactions to multiculturalism. *Journal of Personality and Social Psychology, 101,* 337-353.

Stevens, F. G., Plaut, V. C., & Sanchez-Burks, J. (2008). Unlocking the benefits of diversity: All-inclusive multiculturalism and positive organizational change. *Journal of Applied Behavioral Science, 44,* 116-133.

3. Talk about growing talent, not finding the (boy) geniuses
Emerson, K. T. U., & Murphy, M. C. (2015). A company I can trust? Organizational lay theories moderate stereotype threat for women. *Personality and Social Psychology Bulletin, 41,* 295-307.

Leslie, S. J., Cimpian, A., Meyer, M., & Freeland, E. (2015). Expectations of brilliance underlie gender distributions across academic disciplines. *Science, 347,* 262–265.

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Murphy, M. C., Steele, C. M., & Gross, J. J. (2007). Signaling threat: How situational cues affect women in math, science, and engineering settings. *Psychological Science, 18,* 879-885.

Emerson, K. T. U., & Murphy, M. C. (2014). Identity threat at work: How social identity threat and situational cues contribute to racial and ethnic disparities in the workplace. *Cultural Diversity and Ethnic Minority Psychology, 20,* 508-520.

6. Communicate that tech is not just about me, me, me—it's also about working together, and making a difference
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Yeager, D. S., Purdie-Vaughns, V., Garcia, J., Apfel, N., Brzustoski, P., Master, A., Hessert, W. T., Williams, M. E., & Cohen, G. L. (2014). Breaking the cycle of mistrust: Wise interventions to provide critical feedback across the racial divide. *Journal of Experimental Psychology: General, 143,* 804-824.

14. Create opportunities for women to work more with other women

Dasgupta, N., McManus Scircle, M., & Hunsinger, M. (2015). Female peers in small work groups enhance women's motivation, verbal participation, and career aspirations in engineering. Proceedings of the National Academy of Sciences of the United States of America, 112, 4988-4993.

15. Encourage employees to communicate small gestures that convey their respect for and connection to one another

Aguilar, L. J., Carr, P. B., & Walton, G. M. (In preparation). Cues of working together forestall stereotype threat.

Walton, G. M. & Carr, P. B. (2012). Social belonging and the motivation and intellectual achievement of negatively stereotyped students. In M. Inzlicht & T. Schmader (Eds.) *Stereotype threat: Theory, processes, and application* (pp. 89-106). New York: Oxford University Press.

[1] Contact: gwalton@stanford.edu and mcmpsych@indiana.edu.

[2] Yeager, D. S. & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of Educational Research, 81,* 267-301.
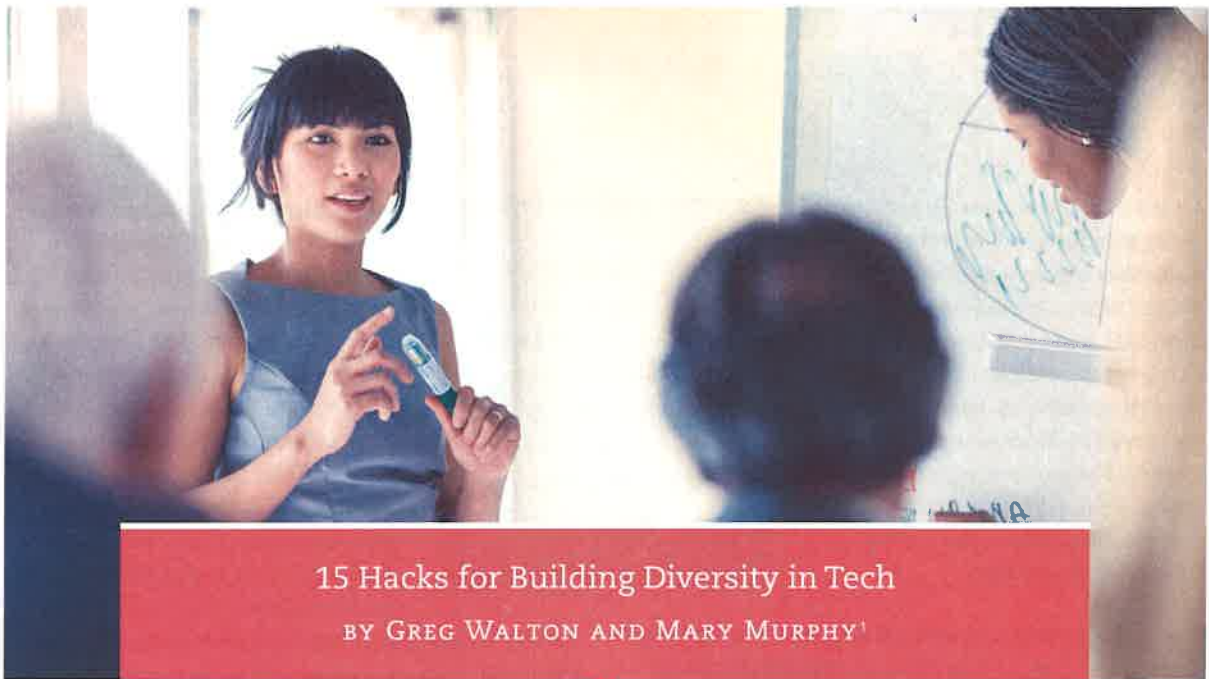
[3] tinyurl.com/15hacks-PDFs

[4] For specific examples of more inclusive job ads, see: Gaucher, D., Friesen, J., & Kay, A. C. (2011). Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology, 101,* 109-128.

[5] The Project for Education Research that Scales (PERTS) has created the *Mindset Kit,* a free resource to help teach people about growth mindset: www.mindsetkit.org/.

15 Hacks for Building Diversity in Tech
BY GREG WALTON AND MARY MURPHY[1]

Policymakers and many tech leaders want to ensure that the American tech industry reflects the diversity of our society. How can we capture the talents and contributions of people from diverse backgrounds who aren't now well represented in tech?

SOCIAL PSYCHOLOGISTS HAVE SHOWN that seemingly small changes can sometimes have large effects on diversity, with effects that endure for years. How is this possible? It's not magic![2] Learn more—and attract people from diverse backgrounds to your company and help them thrive.

This brief describes **15 changes companies can make** to be more diverse and inclusive. These changes fall into four key areas:

- How to help everyone feel welcome
- How to hire the best talent
- How to promote mindsets that increase resilience on the job
- How to use everyday practices to help diverse teams function well

If you'd like more detail on any of these ideas, this folder[3] contains papers from the leading researchers who have pioneered work in these areas.

MAKING EVERYONE FEEL WELCOME

An important goal of any company is to make everyone feel welcome—and especially people from backgrounds that are different from the majority of the people in the company or the industry. The key is to communicate to people from underrepresented groups that they are valued members of the team.

1. Write job ads that include, not exclude

Job ads signal who belongs in a company from the very outset. Research by **Danielle Gaucher at the University of Winnipeg** shows that ads for male-dominated areas tend to use more words associated with male stereotypes (e.g., leader, dominant). That wording makes people think men dominate those settings and, in turn, undermines women's motivation to pursue those opportunities.[4]

2. Celebrate diversity—in everyone

Sure it'd be great to be color-blind—but no one really is. And if a company isn't very diverse, telling people of color that you "just don't see color" can come

across as disingenuous. Research by **Valerie Purdie-Vaughns at Columbia University** shows that African American professionals mistrust Silicon Valley companies that brag about colorblindness in mission statements, especially when the company is not actually diverse. Instead, communicating explicitly that you value diverse perspectives and identities helps those in the minority feel included.

> **Companies should communicate their mission is to find and promote passionate, hard-working, motivated workers who want to learn and grow.**

That message need not exclude people in the majority. If this is a concern, **Vicky Plaut at the University of California, Berkeley** shows that a message called "all-inclusive multiculturalism," which emphasizes that people from all backgrounds contribute diversity to an organization, can help everyone feel included.

3. Talk about growing talent, not finding the (boy) geniuses

While all companies want to hire and promote the best workers, the language they use may unintentionally send a message that excludes underrepresented groups. **Mary Murphy at Indiana University** finds that when companies talk about identifying and hiring "geniuses" with "innate, natural talent," it sends the message to women and people of color that companies are really looking for white or Asian men—the groups stereotypically associated with those attributes in business and tech. Instead, companies should communicate their mission is to find and promote passionate, hard-working, motivated workers who want to learn and grow. This language reduces concerns about stereotyping and makes women and people of color feel more included and more likely to apply for positions.

4. Take down the Star Trek posters!

Nobody likes it when they walk into a room and it looks like a place where people like them just don't

belong. Research by **Sapna Cheryan at the University of Washington** shows that women look around at the physical environment in computer science classrooms and companies and when objects signal that the people there are geeky men (e.g., Star Trek posters, stacked soda cans from all-night coding sessions), they lose interest. Changing the environment can capture women's interest. In one study, nearly all women (and two-thirds of men) preferred a technology company that had a neutral physical environment (e.g., nature posters). What messages does your décor send about who belongs, maybe even messages you don't intend? How can you convey that you value all sorts of people? The key is to think about balance—make sure that stereotypical objects don't dominate and that the physical environment contains cues that convey the company is inclusive of individuals from minority groups.

5. When hiring and promoting, prioritize diversity and show off that diversity

It's true that diversity begets diversity. Why? Because the more that women and people of color see people like them among their peers, supervisors, and upper management, the more they feel valued and respected—and the more likely they are to refer a more diverse pool of candidates to the company. Diversity throughout a company communicates that this is a place where gender and race/ethnicity do not block employees' ability to advance.

Research by **Mary Murphy at Indiana University** finds that women and people of color are particularly vigilant to how many "identity mates" are in a workplace. That's why it's important to think about diversity early and often—even when hiring the first people at a startup. More diversity reduces the pressure minorities feel to represent and speak for their group.

> **Make sure that stereotypical objects don't dominate and that the physical environment contains cues that convey the company is inclusive of individuals from minority groups.**

That makes people feel more comfortable, less stressed, and more committed to the organization.

Diverse hires also beget more diverse candidates. Satisfied employees are more likely to recommend the company to their networks of friends and family. That way diverse employees expand the pool of diverse candidates the company can tap in the future.

6. Communicate that tech is not just about me, me, me—it's also about working together, and making a difference

People differ in what motivates them on the job. Research by **Amanda Diekman at Miami University** shows that for many people, and especially for many women, communal motivations to work with others and to better society drive career choices. Yet people often see science and technology as individual pursuits with self-focused goals. That mismatch doesn't inspire women who hold more pro-social goals. Touting the potential to work on collaborative teams in tech and to create products that make a real difference in society can help people see tech as an opportunity to achieve these communal goals—and thus inspire a new and more diverse generation of workers.

> **Diverse employees expand the pool of diverse candidates the company can tap in the future.**

HIRING THE BEST TALENT

Everyone is exposed to common cultural stereotypes that allege that women are less capable in technical fields than men and that some racial and ethnic groups are less intelligent than others. Even if individuals reject those stereotypes, they can still prevent companies from hiring the best talent. First, it's easy for stereotypes to bias decision-making. When people evaluate candidates for a gender-typed position they tend to prefer candidates of the "right" gender—even when they are no more qualified.

7. Avoid bias in hiring, part 1: Commit to standards before looking at applicants

How can hiring teams overcome bias? Research by **Eric Uhlmann at INSEAD** shows that if decision-makers commit to their hiring criteria *before* evaluating applications—*What exactly do we need this person to be able to do? How important are different skills?*—this can eliminate biases. Then people rely on the candidate's qualifications, not their background.

8. Avoid bias in hiring, part 2: Think about a series of hires as creating a group

Another way to eliminate bias in hiring is to get people out of the mindset of hiring one individual person at a time. When people think of their hires as a series of independent decisions, decision-makers tend to look for the prototypical candidate with each hire—and that biases them toward the usual suspects. But strong teams make successful companies. And thinking about hires as creating a group naturally leads people to think about diversity.

Research by **Valerie Purdie-Vaughns at Columbia University** shows that when decision-makers think of their hires as a group—*What kind of team do I want to create?*—characteristics that emerge across the group become more obvious. It pushes people to ask: *How did my tech panel end up having five white men on it? How did I hire a team of five new engineers and they're all white or Asian men? Is that what I really want?* People generally don't want to be biased. Thinking about hiring as creating a group gives people a chance to self-correct.

9. Identify hidden talent

A second way stereotypes can prevent companies from hiring the best candidates is by causing bias in candidates' scores on critical qualifications, like prior test scores, grades, and even interview performance.

When people perform in settings where they are aware of negative stereotypes about their intellectual abilities, they experience "stereotype threat"—the worry that a poor performance could seem to confirm the negative stereotype about their group. This worry is distracting and it makes people perform less well than they are capable.

Research by **Greg Walton at Stanford University** shows that the result is that scores earned by women and underrepresented racial and ethnic groups often underestimate their true ability and potential. It's like members of these groups run into a headwind in assessments of their ability in science and technology. When they get the same score as men and whites, often they're actually faster runners.

The first step to addressing this bias is just being aware that the same score might not mean the same thing for everyone. When making hiring decisions, take general measures of ability with a grain of salt. Look more at specific evidence that indicates how well a candidate will perform on the job. Minimizing threat during the interview process and being mindful about how the process can be experienced differently by underrepresented groups can help bring in the most talented people and more diverse people, too.

PROMOTING MINDSETS THAT INCREASE RESILIENCE ON THE JOB

One of the most important qualities employees can have is resilience—the tendency to persevere through challenges and difficulties. But what makes people resilient or not? A critical factor involves mindsets—how people make sense of challenges. Specific techniques can help people think about challenges in more productive ways—and, in turn, increase resilience and raise achievement months and years into the future.

Members of underrepresented groups often benefit the most from exercises that promote different mindsets. That's because a natural consequence of being in the minority is to worry "Maybe people like me don't belong here," or "If I screw up, will people think people like me can't code?" Addressing those worries can complement efforts to reduce negative stereotypes in tech, and help people from underrepresented groups thrive.

10. Encourage a "growth mindset" about ability

We're surrounded by a culture that tells us that some people "are smart" and other people "are dumb." Research by **Carol Dweck at Stanford University** and **Joshua Aronson at New York University** shows that this "fixed mindset" sets people up for failure. It makes people think when they are challenged or struggle that they just don't have what it takes (e.g., "I'm just not a math person"; "Maybe I'm not a natural leader").

But when you help people understand that abilities and talents can be developed, they see challenges as opportunities ("I love a good challenge!") and respond to mistakes with relish ("Something I can learn from!"). That makes people reengage after setbacks, learn more from mistakes, persist longer on tough problems and, over time, achieve at higher levels.

A growth mindset is especially important in innovative tech companies that rely on their employees to take smart risks and constantly challenge themselves to reach new heights. How can you encourage this "growth mindset"? One way is to focus on people's growth and development rather than traits. For example, give praise for their process ("You encouraged your team to take ownership over their work and you delivered a great product.") rather than ability ("You're a great leader.").[5]

> **When making hiring decisions, take general measures of ability with a grain of salt. Look more at specific evidence that indicates how well a candidate will perform on the job.**

11. Tell stories to bolster belonging

One challenge of being in the minority is that when things go badly it's easy to wonder whether it means that people like you just don't belong. At times like this it can be essential to share stories that convey that everyone struggles at first—say, feels lonely or isolated, or is criticized—and that such struggles typically pass with time as people become more integrated in a setting. This knowledge helps people stay in the game.

Research by **Greg Walton at Stanford University** shows that sharing stories like this when people enter a new environment (e.g., during orientation), and giving them the opportunity to reflect on how this process has been true for them, can raise performance and well-being among members of underrepresented groups. One hour-long exercise raised African American students' GPA in a highly selective college over the next three years, halving the racial achievement gap. Another eliminated gender differences in GPA in the first year of a highly selective engineering program. Belonging exercises can help people see everyday difficulties as normal challenges to be overcome—not a permanent indictment of their belonging. Then they get back on their feet and build the friendships and mentor relationships that are key to success.

12. Incorporate personal values at work to help people feel like a whole person, not a stereotype

Another problem people face when they are negatively stereotyped in a setting is it can seem like all you are in that context is the negative stereotype—the old guy in the office, or the token woman in engineering. That makes challenges seem especially threatening. In this context, researchers have found that it can be helpful to give people an opportunity to connect with their broader values, what is really important to them, who they really are. That helps people feel less overwhelmed and better able to ride out stressors and challenges.

One way to do this is through value-affirmation exercises—brief writing tasks in which people reflect on personally important values in school or at work. Research by many scholars, especially **Geoff Cohen at Stanford University,** shows that these exercises can cause large and lasting gains in achievement for people who face negative stereotypes in a setting. One value-affirmation exercise reduced the gender gap in exam scores in college physics by 61% (after accounting for academic preparation).

In work settings, companies can think about how to encourage employees to bring their whole selves to work, such as posting pictures of their families and friends, encouraging employee clubs for non-work interests, or sponsoring activities that include employees' friends and families.

Everyday Practices that Help Diverse Teams Succeed

You can get a diverse team in the door but that doesn't mean people will necessarily work well together. How can companies help diverse teams work effectively on a daily basis?

13. Train managers to tell subordinates why they are giving critical feedback

High quality critical feedback is both hard to give and incredibly valuable. What could be better than specific feedback on a project you're working on? The problem is it can turn people off. The problem is especially acute when criticism is given across group lines—when a White manager criticizes a Latino employee's work, or when a male engineer critiques his female staff's code. The subordinate can wonder whether the manager is biased thinks or they are incompetent.

Yet research by **Geoff Cohen at Stanford University** shows that a simple clarification—*Why am I giving you this critical feedback? Because this project is hard and I think you can do it*—can make all the difference. That

helps people take critical feedback the way it is intended. In one study, when a teacher's critical feedback on essays written by African American students was prefaced with this "high standards + assurance" message ("I'm giving you these comments because I have very high expectations and I know that you can reach them.") the percentage who chose to revise their essay for a higher grade increased from 17% to 71%.

14. Create opportunities for women to work more with other women

One of the challenges for women in tech involves interactions with men. Whatever men's personal views, the reality of social stereotypes means that women contend with the possibility that men could view them or treat them disrespectfully, not as valued work partners. This concern can make women hold back in interactions and not perform to their best.

One solution is to give women more opportunities to work with other women. Research by **Nilanjana "Buju" Dasgupta at University of Massachusetts, Amherst** shows that the gender composition of small teams has a substantial impact on women's motivation and performance in engineering. Women participate more actively in project teams that are mostly female (vs. mostly male or equal gender proportions). Women also feel less anxious and more confident and maintain greater career aspirations in engineering when they are part of majority female teams.

This approach may not be possible in some companies and there may be good reasons not to pursue this approach. It's also important that companies not group women onto the "easier" technical or non-technical teams, which is stigmatizing and bad for the industry overall. But paying attention to how teams are structured can help support women in tech.

15. Encourage employees to communicate small gestures that convey their respect for and connection to one another

While the goal is to have a more diverse workforce, the reality is that many tech companies aren't there yet. What if, realistically, a company's underrepresented employees will work mostly with members of the majority in the setting? Research by **Lauren Aguilar at Stanford University** shows that even small gestures by men that convey to women that they see them as valued work partners—like exchanging tips on an ongoing project—can increase women's performance in quantitative fields. Why? These gestures matter because women then perceive the man as feeling genuinely connected to her. Presumably then they worry less about being judged through the lens of a negative stereotype.

> **Even small gestures by men that convey to women that they see them as valued work partners—like exchanging tips on an ongoing project—can increase women's performance in quantitative fields.**

Summary of the 15 Hacks to Promote Diversity in Tech Companies

DIVERSITY CHALLENGE	POTENTIAL HACK
Making Everyone Feel Welcome	
Wording of job ads in male-dominated areas tend to use words associated with male stereotypes	**Write job ads that include, not exclude.** Alter words more associated with men (e.g., leader, dominant)
Non-diverse companies purporting to be "color-blind" come off as disingenuous	**Celebrate diversity—in everyone.** Emphasize diversity that people from all backgrounds contribute to the organization
Talking about identifying natural talent sends the message to women and people of color that the company is looking for white or Asian men	**Talk about growing talent, not finding the (boy) geniuses.** Convey the company's mission is to find and promote passionate hard-workers who want to grow
Environmental cues reinforce narrow stereotypes about what kinds of people belong in that setting	**Take down the Star Trek posters!** Promote balance in physical environments
Underrepresented groups feel pressure to represent their group, causing discomfort and added stress	**Prioritize diversity and show off that diversity.** Hiring diverse workers signals their value and attracts more diversity to a company
Stereotypes about tech suggest it is individualistic, which doesn't appeal to some groups that more often hold communal goals	**Communicate that tech is not just about me—it's also about working together and making a difference.** Tout work on teams and products that help society
Hiring the Best Talent	
Biases from stereotypes about what type of people fill which roles can inadvertently influence the selection of candidates	**Commit to standards before looking at applicants.** Avoid bias in hiring by laying out qualifications up front **Think about a series of hires as creating a group.** Thinking about hiring as building a team vs. getting a series of individuals encourages more diverse hiring
Worries about confirming negative stereotypes can artificially depress performance on key qualifications	**Identify hidden talent.** Minimize stereotype threat in the interview process and be aware that the same score may not mean the same thing for everyone

DIVERSITY CHALLENGE	POTENTIAL HACK
Promoting Mindsets that Increase Resilience on the Job	
When employees hold a fixed mindset, they are more worried about proving their ability than improving it—undermining resilience in the face of challenges	**Encourage a "growth mindset" about ability.** A focus on growth and development cultivates a growth mindset, improving motivation and resilience
When employees are in the minority, it's easy to wonder whether a negative event means "People like me don't belong."	**Tell stories to bolster belonging.** Convey that everyone worries about this at first, but such worries often fade
When people are negatively stereotyped, it can seem like all they are in that context is the stereotype, making challenges more threatening	**Incorporate personal values at work to help people feel like a whole person, not a stereotype.** Encourage people to connect with broader interests and values
Everyday Practices that Help Diverse Teams Succeed	
When criticism is given across group lines, the subordinate can wonder whether their manager is biased or thinks they're incompetent	**Train managers to tell subordinates why they are giving critical feedback.** Convey high standards and confidence the employee can meet them
Concerns colleagues might view them disrespectfully can make stereotyped people hold back in interactions	**Create opportunities for women to work more with other women.** When appropriate and without stigmatizing women, give women opportunities to work with more women
People from negatively stereotyped groups can worry about being judged through the lens of the stereotype	**Encourage gestures that convey respect and connection.** Pay attention to daily interactions that show people they are seen as genuine work partners

Want to Learn More?

All of the published articles listed below are available in this dropbox folder (/tinyurl.com/15hacks-PDFs).

Review Articles

Walton, G. M., Murphy, M. C., & Ryan, A. M. (2015). Stereotype threat in organizations: Implications for equity and performance. In F. P. Morgeson, H. Aguinis, & S. J. Ashford (Eds.) Annual Review of Organizational Psychology and Organizational Behavior.

Yeager, D. S. & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. Review of Educational Research, 81, 267-301.

Making Everyone Feel Welcome

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Gaucher, D., Friesen, J., & Kay, A. C. (2011). Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology, 101,* 109-128.

2. Celebrate diversity—in everyone
Purdie-Vaughns, V., Steele, C. M., Davies, P. G., Ditlmann, R., & Crosby, J. R. (2008). Social identity contingencies: How diversity cues signal threat or safety for African Americans in mainstream institutions. *Journal of Personality and Social Psychology, 94,* 615-630

Plaut, V. C., Garnett, F. G., Buffardi, L., & Sanchez-Burks, J. (2011). What about me? Perceptions of exclusion and Whites' reactions to multiculturalism. *Journal of Personality and Social Psychology, 101,* 337-353.

Stevens, F. G., Plaut, V. C., & Sanchez-Burks, J. (2008). Unlocking the benefits of diversity: All-inclusive multiculturalism and positive organizational change. *Journal of Applied Behavioral Science, 44,* 116-133.

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Emerson, K. T. U., & Murphy, M. C. (2015). A company I can trust? Organizational lay theories moderate stereotype threat for women. *Personality and Social Psychology Bulletin, 41,* 295-307.

Leslie, S. J., Cimpian, A., Meyer, M., & Freeland, E. (2015). Expectations of brilliance underlie gender distributions across academic disciplines. *Science, 347,* 262–265.

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Emerson, K. T. U., & Murphy, M. C. (2014). Identity threat at work: How social identity threat and situational cues contribute to racial and ethnic disparities in the workplace. *Cultural Diversity and Ethnic Minority Psychology, 20,* 508-520.

6. Communicate that tech is not just about me, me, me—it's also about working together, and making a difference
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Diekman, A. B., Brown, E. R., Johnston, A. M., & Clark, E. K. (2010). Seeking congruity between roles and goals: A new look at why women opt out of STEM careers. *Psychological Science, 21,* 1051-1057.

Hiring the Best Talent

Bias in hiring
Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., & Handelsman, J. (2012). Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences of the United States of America, 109,* 16474-16479.

7. Avoid bias in hiring, part 1: Commit to standards before looking at applicants

Uhlmann, E. L., & Cohen, G. L. (2005). Constructed criteria: Redefining merit to justify discrimination. *Psychological Science, 16*, 474-480.

8. Avoid bias in hiring, part 2: Think about a series of hires as creating a group

Purdie-Vaughns, V., Romero-Canyas, R., & Walton, G. M. (Under review). Does choice architecture affect racial diversity? Case-by-case versus group selection decisions.

9. Identify hidden talent

Walton, G. M., & Spencer, S. J. (2009). Latent ability: Grades and test scores systematically underestimate the intellectual ability of negatively stereotyped students. *Psychological Science, 20*, 1132-1139.

Walton, G. M., Spencer, S. J., & Erman, S. (2013). Affirmative meritocracy. Social Issues and *Policy Review, 7*, 1-35.

Promoting Mindsets that Increase Resilience on the Job

10. Encourage a "growth mindset" about ability

Aronson, J., Fried, C. B., & Good, C. (2002). Reducing the effect of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology, 38*, 113-125.

Blackwell, L. A., Trzesniewski, K. H., & Dweck, C. S. (2007). Theories of intelligence and achievement across the junior high school transition: A longitudinal study and an intervention. *Child Development, 78*, 246-263.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.

Paunesku, D., Walton, G. M., Romero, C. L., Smith, E. N., Yeager, D. S., & Dweck, C. S. (2015). Mind-set interventions are a scalable treatment for academic underperformance. *Psychological Science, 26*, 784-793.

The Project for Education Research that Scales (PERTS) has created the *Mindset Kit*, a free resource to help teach people about growth mindset: www.mindsetkit.org/.

11. Tell stories to bolster belonging

Walton, G. M., Logel, C., Peach, J., Spencer, S., & Zanna, M. P. (2015). Two brief interventions to mitigate a "chilly climate" transform women's experience, relationships, and achievement in engineering. *Journal of Educational Psychology, 107*, 468-485.

Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science, 331*, 1447-1451.

12. Incorporate personal values at work to help people feel like a whole person, not a stereotype

Cohen, G. L., Garcia, J., Purdie-Vaughns, V., Apfel, N., & Brzustoski, P. (2009). Recursive processes in self-affirmation: Intervening to close the minority achievement gap. Science, 324, 400-403.

Harackiewcz, J. M., Canning, E. A., Tibbetts, Y., Giffen, C. J., Blair, S. S., Rouse, D. I., & Hyde, J. S. (2014). Closing the social class achievement gap for first-generation students in undergraduate biology. *Journal of Educational Psychology, 106*, 375-389.

Miyake, A., Smith-Kost, L. E., Finkelstein, N. D., Pollock, S. J., Cohen, G. L., & Ito, T. A. (2010). Reducing the gender achievement gap in college science: A classroom study of values affirmation. *Science, 330*, 1234-1237.

Walton, G. M., Logel, C., Peach, J., Spencer, S., & Zanna, M. P. (2015). Two brief interventions to mitigate a "chilly climate" transform women's experience, relationships, and achievement in engineering. *Journal of Educational Psychology, 107*, 468-485.

Everyday Practices that Help Diverse Teams Succeed

13. Train managers to tell subordinates why they are giving critical feedback

Cohen, G. L., & Steele, C. M. (2002). A barrier of mistrust: How stereotypes affect cross-race mentoring. In J. Aronson (Ed.), *Improving academic achievement: Impact of psychological factors on education* (pp. 305–331). Oxford, England: Academic Press.

Cohen, G. L., Steele, C. M., & Ross, L. D. (1999). The mentor's dilemma: Providing critical feedback across the racial divide. *Personality and Social Psychology Bulletin, 25*, 1302–1318.

Yeager, D. S., Purdie-Vaughns, V., Garcia, J., Apfel, N., Brzustoski, P., Master, A., Hessert, W. T., Williams, M. E., & Cohen, G. L. (2014). Breaking the cycle of mistrust: Wise interventions to provide critical feedback across the racial divide. *Journal of Experimental Psychology: General, 143,* 804-824.

14. Create opportunities for women to work more with other women

Dasgupta, N., McManus Scircle, M., & Hunsinger, M. (2015). Female peers in small work groups enhance women's motivation, verbal participation, and career aspirations in engineering. Proceedings of the National Academy of Sciences of the United States of America, 112, 4988-4993.

15. Encourage employees to communicate small gestures that convey their respect for and connection to one another

Aguilar, L. J., Carr, P. B., & Walton, G. M. (In preparation). Cues of working together forestall stereotype threat.

Walton, G. M. & Carr, P. B. (2012). Social belonging and the motivation and intellectual achievement of negatively stereotyped students. In M. Inzlicht & T. Schmader (Eds.) *Stereotype threat: Theory, processes, and application* (pp. 89-106). New York: Oxford University Press.

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[2] Yeager, D. S. & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of Educational Research, 81,* 267-301.

[3] tinyurl.com/15hacks-PDFs

[4] For specific examples of more inclusive job ads, see: Gaucher, D., Friesen, J., & Kay, A. C. (2011). Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology, 101,* 109-128.

[5] The Project for Education Research that Scales (PERTS) has created the *Mindset Kit,* a free resource to help teach people about growth mindset: www.mindsetkit.org/.