Skepticism about Bias

Michael Brownstein

Criticism of research on implicit bias has grown in recent years. Psychologists, philosophers, and journalists have raised a variety of concerns. These range from very technical critiques of the way that implicit bias is measured to foundational worries about the social sciences in general. Particularly in the popular press, some have drawn strong conclusions, for example, that research on implicit bias is a "false science" (e.g., Bartlett 2017; Mac Donald 2017c; Singal 2017).

In what follows, I distinguish six lines of critique and reply to each. Some are more widely held than others. For reasons of space, I home in on one or two representatives of each line of critique. A common thread is that there are many open questions and challenges facing research on implicit bias. However, it is a mistake to conclude from these open questions and challenges that the implicit bias research program ought to be abandoned. Instead, scholars ought to seek to improve our understanding of what implicit bias is, how it affects people's lives, the ways in which it is measured, and the most effective strategies to combat it.

1. Inequalities thought to be explained by bias don't exist or aren't unjust

One way to criticize research on implicit bias is to claim that it is much ado about nothing. If the kinds of discrimination and inequalities with which social scientists are concerned—those stemming from people's attitudes toward race, gender, age, sexual orientation, class, etc.—don't really exist, then there is nothing important for implicit bias to explain. There

are two related forms of this argument. One is to deny the existence of specific social disparities, for example, to deny that the police treat black people differently from white people. Another is to explain away disparities in ways that make them seem banal, or that exonerate members of dominant social groups, for example, to argue that police arrest black people more often because black people are more likely to commit crimes. To some extent, the difference between these marks the difference between inequalities and inequities. Inequalities are simply differences, which may or may not be just. Some people are taller than others, which is an inequality, but there is nothing morally worrying about this. Inequities are unjust differences. If a manager only hires tall people, and there is no justifying reason for this (e.g., a justifying reason might be that she is hiring basketball players), then she is contributing to inequity.

For an example of the first kind of critique—denying the existence of specific social disparities—recall that implicit bias is often invoked as helping to explain racial disparities in policing in the United States. Heather Mac Donald (2017a), however, author of *The War on Cops*, denies the existence of racial disparities in policing. She argues that "the police have much more to fear from black males than black males have to fear from the police" (2017a). Mac Donald blames the putatively false narrative about racial disparities in the criminal justice system on the mainstream media, President Obama, and Black Lives Matter protestors, whom she calls "savages" (2017b, 15). Similarly, Mac Donald claims that race-based affirmative action is rampant and that "the most influential sectors of the economy today employ preferences in favor of blacks" (2017c).

Elsewhere, as an example of the second line of critique, Mac Donald acknowledges the existence of racial disparities in the United States, but blames these inequalities on disenfranchised minorities themselves. This is to say that while she acknowledges the existence

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of certain racial inequalities, she denies that these inequalities are inequities (i.e., that they are unjust). In her article, "The False 'Science' of Implicit Bias" (2017c) she writes:

> It is taboo to acknowledge that socioeconomic disparities might be caused by intergroup differences in cultural values, family structure, interests or abilities. The large racial gap in academic skills renders preposterous any expectation that, absent bias, blacks and whites would be proportionally represented in the workplace. And vast differences in criminal offending are sufficient to explain racial disparities in incarceration rates.

Reply

Leaving aside the ideological charge and apparent racial animus of Mac Donald's views, her first set of claims about race and policing, which I take to be representative of the view that specific social inequalities don't exist, are unconvincing. The evidence of racial disparities in health, wealth, policing, education, and virtually every measurable index of group well-being is overwhelming (respectively, see for example, Penner et al. 2013; Chetty et al. 2018; Pfaff 2017; Magnuson & Waldfogel 2011). When Mac Donald asserts that the police have more to fear from black men than the reverse, or that most sectors of the economy have preferences for black employees, she does so on an extremely narrow reading of the data. For example, to justify her claim about police officers' fear of black men, she asserts that, in 2015, a police officer was 18.5 times more likely to be killed by a black man than an unarmed black man was to be killed by a police officer. All of these deaths are terrible, and minimizing the dangers associated with being a police officer is hugely important, of course. But the statistic Mac Donald cites, assuming it is true, in no way justifies her assertion. Black Americans have countless reasons to fear the police

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that Mac Donald does not consider, from the role of police in supporting past racial injustices—slavery, lynchings, Jim Crow—to the kinds of daily harassment and abuse documented in the Investigation of the Ferguson Police Department by the U.S. Department of Justice (2015), to the mass incarceration of black men today in the United States, not to mention the state's monopoly on legal violence and what that means for those who are treated unfairly by it (for review, see Alexander 2010). Police officers choose their job, moreover, consciously accepting that it entails certain risks. Black Americans do not choose to be targets of suspicion and fear.

Likewise unconvincing are Mac Donald's explanations of racial disparities in terms that make them seem innocuous, inevitable, or the fault of the victims. The idea that socioeconomic disparities between black and white Americans is the result of "black culture," for example, has been thoroughly debunked (e.g., see Chetty et al. 2018, discussed below). This is not to say, of course, that people's individual choices don't matter, nor that individuals have no responsibility for the course of their lives. Rich and extensive literatures explore the interplay of individual responsibility under conditions of inequality and inequity, an interplay that is relevant, of course, not only to race but also to gender, age, disability, and so on. One can also be critical of aspects of the cultures of those who have suffered inequities without thereby brushing aside the problem of those inequities (e.g., Coates 2015).

2. Inequities exist but bias doesn't explain them

Unlike Mac Donald, most people writing about implicit bias acknowledge the existence of widespread group-based inequities in societies like the United States. Some have claimed, however, that there is little evidence that bias and prejudice—whether implicit or explicit—

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contribute to those social inequities. For example, Sean Hermanson highlights studies that appear to find "no evidence of racial bias in officer-involved shootings" (2017b). Hermanson also claims that "given base rates for criminality the relationship between race and police shootings is unsurprising" (2018). (A "base rate" is the probability of some event happening, such as having a heart attack, prior to intervention, such as taking medication to lower your cholesterol.) Hermanson implies that the reason police officers shoot more black people than white people is because black people commit more crimes. While Hermanson (unlike Mac Donald) acknowledges that this fact may be due to race-based inequity, he claims that racial bias is not the cause of this inequity. Police officers' attitudes toward race, in other words, don't explain the rates at which they shoot black people.

These claims contribute to Hermanson's overall conclusion that "I want my money back" with respect to research on implicit bias. His critique is not based on shooting data alone. Like myself, Hermanson is a philosopher, and he is concerned with whether women and members of historically marginalized groups are at a disadvantage within the field. His view is that men are at a comparative *dis*advantage on the philosophy job market. Based on his own analysis of hiring data, Hermanson argues that there is, for example, "weak evidence" that CVs and resumes are judged differently according to the perceived gender and race of their authors (2017a). "Since 2010," he writes, "women seem to enjoy significant advantage on the [philosophy job] market. In order to understand demographic variance we need to think more about pre-university influences, not implicit biases" (2018). This point contributes to Hermanson's broad conclusion that it is a myth that there is widespread evidence that implicit bias contributes to real-world discrimination.

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Reply

It may indeed turn out that some of the inequities for which researchers have thought that implicit bias is a partial cause are better explained by other factors. And, it is true that some have "over-hyped" research on implicit bias, suggesting (implicitly or explicitly) that it is the primary driver of discrimination in the contemporary world. But it is, for example, demonstrably false that the relationship between race and police shootings is explained by base rates of race-based criminality alone. An analysis of data from 2015, for example, finds no correlation between rates of violent crimes in 50 major cities in the USA and rates at which police officers killed people in those cities (https://mappingpoliceviolence.org/2015/). A more recent study reaffirms the basic finding; police officers are no more likely to shoot and kill someone who is unarmed in a high-crime area compared with a low-crime area (Nix et al. 2017). Black Americans are, moreover, disproportionate targets of police force, compared to white Americans, even when controlling for whether the person targeted is a violent criminal (Center for Policing Equity 2016). Criminologist Justin Nix summarizes his recent study of 990 fatal police shootings this way: "The only thing that was significant in predicting whether someone shot and killed by police was unarmed was whether or not they were black," continuing, "this just bolsters our confidence that there is some sort of implicit bias going on" (quoted in Lowery 2016).

A much more open question is *how much* bias (whether implicit or explicit) contributes to police shootings (see Saul (ms) for discussion). Hermanson cites a much-discussed *New York Times* op-ed by economist Sendhil Mullainathan which argues that, if bias was a significant factor in contributing to police shooting of black Americans, then there would be a significant difference between the rates at which black Americans are arrested and the rates at which black Americans are killed by police officers. First, however, it is important to note that, despite this

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point, Mullainathan concedes that "Police killings *are* a race problem" and that "African-Americans *are* being killed disproportionately and by a wide margin" (2015). Second, Mullainathan argues that the problem is driven by the fact that black Americans have disproportionate encounters with the police (i.e., base rates for police contact are higher for black Americans than for white Americans) and that the drivers of police encounters are likely not the biases of individual officers, but rather administrative decisions about where to patrol and descriptions of suspects given to the police by citizens. This is a reasonable point, but one which invites further reflection on, and hopefully further research into, the roles bias plays in shaping decision-making at different levels of society. The administrators who craft policies regarding where to patrol may be biased, as may be the people who describe what suspects look like. Indeed, there is a large literature on the latter, indicating that thoughts of crime trigger thoughts of black people (e.g., Kleider-Offutt et al. 2018). Furthermore, differences in the reasons black and white Americans have encounters with the police are crucial. Black drivers, for example, are three times more likely than white drivers to be pulled over for "investigatory" stops, where police officers see something suspicious but no unambiguous violation has taken place (Epp et al. 2014). The phenomenon of being stopped for "driving while black" means that police encounters cannot only be explained in terms of administrative decisions. FBI data relatedly suggest that when initial civilian-police interactions are the least serious, racial disparities in violent outcomes are the greatest (Lind 2015).

Similarly, in the case of academia, there is ample evidence of gender bias against women contributing to harmful outcomes, but there are also many open questions about *how much* bias contributes to outcomes and *in what specific domains* bias negatively affects women. In general, research shows that women faculty are asked to do more favors from students than men (El-

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Alayli et al. 2018), to do more service (Guarino & Borden 2017), are invited less frequently than men to prestigious colloquia (Nittrouer et al. 2018), systematically receive worse teaching evaluations, in both audit studies (e.g., Mengel et al. 2018) and studies in which online instructors teach multiple courses under different gender identities (MacNell et al. 2014), and more.

In the case of philosophy, Hermanson's own analysis of the available data over roughly the last decade suggests that women are more likely than men to be hired for tenure-track jobs (Allen-Hermanson 2017). Moreover, Hermanson finds that women are hired for tenure-track jobs in philosophy with approximately half the publications than men who are hired for tenure-track jobs. These findings are consistent with some studies examining gender and hiring in STEM fields too. Williams and Ceci (2015) find that STEM faculty prefer to hire women over men, at least when both the women and men candidates are exceptionally well-qualified. Hermanson takes these findings to speak "against the hypothesis that sexist attitudes (whether conscious or unconscious) held by philosophers are a major cause of disproportion according to gender" (Allen-Hermanson 2017).

These data are important. More research is needed in reconciling them with conflicting accounts of gender and academic hiring specifically (e.g., Jennings (2016) analyses hiring in philosophy and arrives at different conclusions from Hermanson (Allen-Hermanson 2017); the findings for gender and hiring in STEM fields are similarly mixed (e.g., see Moss-Racusin et al. 2012)). But Hermanson's conclusion is too strong, even taking his hiring data for granted. His arguments do not rule out, or cast any doubt, on the possibility that philosophers' sexist attitudes contribute to the decision many women undergraduates make to leave philosophy behind (Thompson et al. 2016), to the gender stereotypes about philosophy that students understand

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prior to starting college (Baron et al. 2015), to women philosophy professor's decisions to submit their work to relatively lower-tier journals (Allen-Hermanson 2017), or to the countless experiences of harassment women philosophers have described in public (see < https://beingawomaninphilosophy.wordpress.com/>). Moreover, another possibility to take seriously, but which Hermanson dismisses, is that women have been faring better specifically in tenure-track hiring in philosophy over the past 10 years *because more and more philosophers are taking gender bias seriously*. Whether this is the case is, of course, an empirical question, one which scholars will hopefully investigate.

3. Inequities exist but they're explained by *explicit* bias

Research into implicit bias has been driven partly by widespread declines in overt racism and sexism. However, particularly since the election of President Trump, the growth of far-right political movements in Europe, and the #MeToo movement, some critics have suggested that the historical turn to less overt forms of bias has been overstated. We don't need implicit bias to explain contemporary discrimination and inequality, some critics say, as explicit bias can do the explaining. For example, Jesse Singal (2017) points to the Justice Department's report that the Ferguson police and court officials engaged in widespread *intentional* race-based discrimination. He writes, "It might be advantageous to various people to *say* implicit bias rather than explicit bias is the most important thing to focus on, but that doesn't make it true — a point driven home, perhaps, by the fact that the United States just elected one of the more explicitly racist presidential candidates in recent history" (2017).

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Reply

Explicit bias undoubtedly plays a causal role in explaining outrageous discriminatory practices like those in Ferguson. It is also true that researchers (including me) have sometimes been too quick to suggest that explicit racism and sexism are mostly old-fashioned and that implicit bias is the contemporary face of prejudice. And, as I said above, research on implicit bias has been overhyped by some, and to the extent that anyone has claimed that implicit bias is the most important cause of contemporary discrimination and inequality, Singal is right to disagree. However, the criticisms described above are overstated and misleading.

First, many researchers suggest that implicit bias is important to address within the large segment of the population that disavows prejudice and common social stereotypes. I suspect, for example, that the majority of readers of this volume oppose explicit discrimination. The fact that intentional discrimination is a pervasive and still-contemporary problem does not obviate the fact that there are many people who are explicitly opposed to discrimination, and who are aiming to be unbiased, and yet are susceptible to the kinds of biased behavior implicit bias researchers have been concerned about. The persistence of intentional discrimination, in other words, is no reason to abandon the research program focused on implicit bias.

Second, some critics elide the extensive and ongoing debate in the literature about the nature and relationship between implicit and explicit mental states, processes, and biases. "Implicit bias" is a term of art that refers to a set of unendorsed or disavowed behaviors, such as one's performance on an IAT. Implicit measures, such as the IAT, are tests that quantify implicit bias. These tests have psychological causes, which are a combination of implicit and explicit processes (or implicit and explicit attitudes, depending on your preferred theory), as well as other features of cognition (e.g., the ability to control one's impulses). In arguing that implicit bias is a

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confused notion because explicit biases are more significant causes of discriminatory behavior, Hermanson and others appear to be confusing mental processes with behavioral outcomes. By definition, implicit bias is disavowed behavior. Moreover, there is a rich, long-standing, and ongoing literature exploring the interactions of implicit and explicit processes that give rise to implicit bias. For example, researchers have known for some time that the best way to predict a person's scores on an implicit measure like the IAT is to ask them their opinions about the IAT's targets. Recent data has also demonstrated that people are fairly good at predicting their own IAT scores (Hahn et al. 2015). This doesn't suggest that implicit bias is a meaningless construct. Rather, it suggests that measures of implicit bias are not "process pure" (i.e., what they measure is a mix of various cognitive and affective processes). By analogy, you are likely to find that people who say that cilantro is disgusting are likely to have aversive reactions to it, but this doesn't mean that their aversive reactions are an invalid construct. Indeed, one of the leading theories of the dynamics and processes of implicit social cognition *since 2006* – Gawronski and Bodenhausen's "Associative-Propositional Evaluation" model (APE, updated, e.g., in 2014; see Chapter 1)—is based on a set of predictions about this process impurity (i.e., about the interactions of implicit and explicit evaluative processes).

That said, *there are* crucial open questions in the literature, and some forms of confusion are the responsibility of problematic theories. Arguably the most advertised and influential account of implicit bias posits attitudes that are outside of agents' awareness and control. This definition is thrice problematic, as research suggests that we are not that unaware of our implicit biases (*op cit.*; according to APE, people fail to report their implicit biases not because they are unaware of them but because they reject them, either because they think they are unjustified or they want to appear unbiased); that there are many techniques available for gaining some degree

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of control over them (see Lai et al 2013 for review); and that people don't have "dual" attitudes that exist in isolation from one another. But, of course, there are many alternatives to this definition, from APE (*op cit*.) to my own (Brownstein & Madva 2012; Madva & Brownstein 2018; Brownstein 2018). The lively debate about how to characterize the construct of interest is ongoing, as it should be.

4. Social structures, not biased minds, are the causes of discrimination and inequity

So long as social science has existed, there have been debates about whether to explain social phenomena in terms of institutional-structural features of societies or in terms of the psychologies of the individuals who comprise those societies. The (crudely put) anti-individualist, sociological approach running from Marx through Durkheim through "situationism" has surfaced as a form of critique of implicit bias too. The central idea running through this "structuralist" stream of thought is that what happens in the minds of individuals, including their biases, is the *product of* social inequalities rather than an *explanation for* them. Features of the organization of the social world, in other words—poverty, housing segregation, social norms, etc., which exist in independence of any particular person's thoughts about them—create biases, rather than the other way around. As such, structuralist critics argue, we should focus our attention on changing social structures themselves, rather than trying to change individual's biases directly.

For example, Saray Ayala (forthcoming) argues that social structures, such as informal norms governing conversations, and not biased minds, are the cause of many forms of injustice, such as how certain individuals' (e.g., women's) speech is degraded, ignored, or discounted.

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Ayala builds on Sally Haslanger's (2015) influential account of social structure, and while Haslanger grants that there is a "small space for attention to implicit bias in social critique" (2015, 11), Ayala argues that "agents' mental states [are] . . . not necessary to understand and explain" when considering social injustice (2016, 9). In a related vein, Elizabeth Anderson (2010) argues that segregation continues to be a key cause of contemporary racial inequality in the United States. Along the way to making this point, she is critical of what she sees as a distracting focus on the psychology of bias. Likewise, Ron Mallon (ms) explores the ways in which social privileges like property, wealth, and education accumulate along racial lines. Mallon proposes that the relevant mechanisms of accumulation "crowd out" implicit biases as important causes of inequity. He writes, "there exists little reason to think that contemporary implicit associations are an important part of the explanation of contemporary disparities caused by or grounded in accumulation mechanisms."

Reply

The structuralist critique is discussed in much more depth in Chapter X of this volume. Here I make a few brief points. As is a theme in this essay, I think the structuralist critics point to important open questions and challenges for implicit bias researchers. There is much work to do in understanding how psychological and structural phenomena interact to produce and entrench discrimination and inequity. But I think strong claims to the effect that there is little or no room for implicit bias to explain these outcomes are mistaken.

First, some data are notably hard for structuralists to explain. For example, Raj Chetty and colleagues' (2018) striking intergenerational analysis of race and economic opportunity in

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the United States appears to find no way around the conclusion that prejudice against black people is a crucial driver of inequity. They studied racial disparities in wealth over the entire U.S. population from 1989-2015. Black Americans, they find, have substantially lower rates of upward economic mobility, and substantially higher rates of downward economic mobility, compared to white Americans. This gap is almost entirely driven by differences in wages and employment rates between black and white men, not women. Crucially, they find that differences in parental marital status, education, and personal abilities explain very little of the gap. (These findings also speak against the claim I discussed in §1, that "black culture" is to blame for racial inequity.) Moreover, the gap persists amongst black and white boys who grow up in the same neighborhood. The only areas in which the gap is small are low-poverty neighborhoods with high rates of black fathers being present and *low levels of racial bias amongst whites.*

Findings like this put pressure on structuralists to explain why social practices (e.g., parental marital status) and situational factors (e.g., high-poverty neighborhoods) don't all by themselves explain economic inequity. Rather, it appears that social practices and situational factors *in interaction* with psychological attitudes (e.g., racism) do. This "interactionism" represents an alternative to the structural critique. The aim is not to eschew psychological bias, or to ignore contextual factors, but to understand how bias operates differently in different contexts. By analogy, if you wanted to combat housing segregation, you would want to consider not only problematic institutional practices, such as "redlining" certain neighborhoods within which banks will not give mortgage loans, and not only psychological factors, such as the propensity to perceive low-income people as untrustworthy, but the interaction of the two. A low-income person from a redlined neighborhood might not be perceived as untrustworthy when

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they are interviewing for a job as a nanny, but might be perceived as untrustworthy when they are interviewing for a loan.

Adopting the view that bias and structure interact to produce unequal outcomes does not mean that researchers must always account for both. Sometimes it makes sense to emphasize one kind of cause or the other. If my aim is to explain why people are happier in Scandinavian countries than in the United States, I will prioritize structural features of the relevant governments and communities, on the presumption that the nature of the Scandinavian psyche is not likely to be all that inherently different from the American one. If my aim is to explain why twins raised in the same home don't always end up equally happy in life, however, I will prioritize differences between their individual minds. But even in these extreme cases, a more complete explanation requires focusing on the *interaction* of individual differences within situations. What psychological dispositions make it such that people are happier when they live in countries with less inequality (as in the Scandinavian countries)? And, given that not everyone in these countries is in a state of perpetual bliss, what individual differences explain why some people remain unhappy even in these apparently favorable structural conditions? Likewise, are there subtle differences in the norms and expectations placed on people that can lead to disparate outcomes for extremely similar individuals (e.g., the twin sibling who is more outgoing having more success in school)?

Another possibility that structuralists seem to discount is that psychological biases might be key contributors to social-structural phenomena. For example, oft-touted examples of structural racism are the drug laws and sentencing guidelines that contribute to the mass incarceration of black men in the USA. The recent surge of states legalizing marijuana presents a novel twist in this story. What has happened in these states? While marijuana-related arrests

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have declined for all racial groups in these states, black people continue to be arrested for marijuana-related offenses at a rate of about 10 times that of white people (Drug Policy Alliance 2018). This could be due to officers' biases, or to the biases of those administrators who made decisions about where to patrol, or to the biases of the people who give officers descriptions of suspects. But it is hard to understand the phenomenon without adverting to someone's biases.

Finally, it is important to note that there is nothing intrinsically individualistic about contemporary measures of implicit bias. Payne and colleagues (2017) argue that tests like the IAT can be understood as a way to measure general features of cultures, such as norms and unjust structures. For example, average scores on implicit measures of prejudice and stereotypes, when aggregated at the level of cities within the United States, predict racial disparities of shootings of citizens by police in those cities (Hehman et al. 2017). Thus, while it is certainly true that most of the relevant literature and discussion conceptualizes implicit bias as way of differentiating between individuals, anti-individualists might utilize the data for differentiating regions, cultures, and so on. Only time will tell, but measures of implicit bias might represent powerful tools for detecting large-scale structural injustices.

5. The importance of understanding implicit bias has been vastly overstated

Research on implicit bias has received a lot of attention recently, in politics, journalism, philosophy, jurisprudence, business, medicine, and more. Some critics have argued that this attention is unwarranted. Lee Jussim, for example, argues that the current backlash against implicit bias in general, and against the IAT in particular, is due to its "wild overselling" (2018).

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Singal writes, “the overhyping of IAT stacks the deck so much that sometimes it feels like implicit bias can explain *everything*” (2017, emphasis in original).

Reply

In general, the most grandiose claims about implicit bias have been found in the popular press, rather than in scholarly writing. For example, *New York Times* columnist Nicholas Kristof writes, “it’s sobering to discover that whatever you believe intellectually, you’re biased about race, gender, age or ability” (2015). This is an oversimplification, and it’s likely untrue.

Researchers themselves are not entirely innocent, however. For example, Project Implicit – the online home of the IAT – phrases feedback about participants’ scores in such a way that people can easily (and falsely) think that taking the test one time reveals the true permanent nature of their own social attitudes. It is also true that some common formulations of the nature of implicit bias, promoted by researchers, have contributed to confusion. As I discussed above, implicit attitudes were originally (and, by some, still commonly) described as unconscious, although current evidence fairly clearly shows that this picture is too simple. Similarly, the aforementioned APE model originally posited that implicit attitudes were purely associative structures, which would be impervious to non-associative interventions, such as persuasion, but the current picture is more complex (for discussion, see Gabbrielle Johnson’s chapter in this volume). For reasons like these, it is too early to tell whether the IAT really constitutes a “revolution in social psychology,” as Kester (2001) claimed in the bulletin of the American Psychological Society.

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But the takeaways are not that the IAT is useless or that we should move on from talking about implicit bias. There are two core takeaways. First, the relationship between scientific research and science communication must be improved. When communication about science fails, science literacy, public policies, public trust in science, and public funding for scientific research may be impacted. These are serious problems, which should not be underestimated. The onus to improve science communication is on both journalists and researchers, in psychology and all other scientific fields. However, the harms of poor science communication should not be conflated with the status of the actual scientific research. Second, the ongoing refinement of theories of the nature of implicit bias, and the ongoing debate about the proper explanatory scope of tools like the IAT, is simply the regular process of (often slow) scientific progress at work. To claim otherwise – to conclude from overhype about implicit bias and from the need to revise early theories that the research program ought to be ditched – is akin to claiming that when astronomers decided that Pluto wasn't a planet, that Pluto no longer exists.

6. *Something* like implicit bias is important to understand, but the tools we have to study it at present are fatally flawed

Many critics point to two *psychometric* concerns. (Psychometrics is about the measurement of the mind, thus the concerns are about the way that implicit bias is measured.) These have focused largely on the IAT in particular. The first concerns the extent to which implicit measures predict behavior. The second concerns the stability of individuals' scores on implicit measures over time. I cannot address these concerns in depth here; instead I summarize what I have argued elsewhere (see Brownstein et al. ms).

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Correlations between two things can range from -1 to 1. A correlation of 1 means that every time you find X, you find Y. A correlation of 0 means that when you find X, you are just as likely to find Y as you are to not find Y. And a correlation of -1 means that when you find X, you never find Y. The average correlations found between individuals' scores on implicit measures (e.g., an IAT score) and measures of behavior (e.g., ratings given to a résumé) have ranged from approximately .14 to .37 (Cameron et al. 2012; Greenwald et al. 2009; Oswald et al. 2013; Kurdi et al. 2018). According to standard conventions, these are considered small-to-medium correlations. That is, these meta-analyses suggest that the power of implicit bias to predict some specific behavior is, on average, small. Critics of research on implicit bias have taken these findings to show that tests of implicit bias, like the IAT, are not very useful. Oswald and colleagues, for example, conclude that "the IAT provides little insight into who will discriminate against whom, and provides no more insight than explicit measures of bias" (2013, 18). Many have taken Oswald and colleagues' conclusion to be definitive (especially many critics outside psychology; e.g., Bartlett 2017; Singal 2017; Yao & Reis-Dennis ms). Edouard Machery, for example, calls the predictive validity of current implicit measures "ridiculous" (2017a).

The second commonly held concern is that individuals' scores on implicit measures fluctuate considerably over time. Some psychological tests, such as the best validated tests of personality, show a high degree of stability over time ("test-retest reliability"). This means that if you take a personality test today and it says that you're very shy, then if you take that test again in a few weeks or months, it will likely say you're shy again. However, the most popular measures of implicit biases don't work like this. If you take an IAT today that says you have a

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strong bias against black people, and then you take it again in a week, it might now say that you have a slight bias against white people. (See Gawronski et al. 2017 for review.)

Thus, critics argue that implicit measures do not provide meaningful information about individuals' minds or behavior. If implicit bias exists, this line of thought goes, our current tools for measuring it are fatally flawed.

Reply

What does it mean for a psychological test to predict behavior in small to medium ways and for people's scores on that test to vary considerably over time? These are not trivial issues, but nor are they reasons to believe that implicit measures are fatally flawed. Rather, what ought to be emphasized is that (a) the status of implicit measures is not radically different from the status of many other widely accepted psychological tests, in particular measures of attitudes, and (b) there are many avenues for improving the current crop of implicit measures, rather than abandoning them.

Expectations about how well a given test performs should be calibrated to the difficulty of measuring what the test aims to capture. How predictively powerful should we expect implicit measures to be? Compare the average correlations between individuals' scores on implicit measures and measures of behavior (.14 to .37) to correlations between other constructs and behavior: beliefs and stereotypes about outgroups and behavior (r = .12; Talaska et al. 2008); SAT scores and freshman grades in college (r = .24; Wolfe and Johnson 1995); parents' and their children's socioeconomic status (r = .2-.3; Strenze 2007). The fact that tests of implicit bias fall

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within the same range as these other kinds of tests is telling. Predicting behavior is difficult. This isn't cause for despair, but rather for having modest ambitions.

One core reason why predicting behavior is difficult is that people act differently in different contexts. Continuing the example from above: a shy person is unlikely to act shy all of the time. She might be outgoing in her neighborhood but not when traveling abroad; she might be vocal and loud when playing soccer but not in class; her leadership style might involve bold risk-taking, even if she is timid in large meetings. Analogously, one might act biased against women in some contexts—for example, when teaching a class—but not in other contexts—for example, meeting with one's boss. This is to be expected according to at least one leading theory of implicit bias—APE (*op. cit*)—because what tests like the IAT capture is more or less what's on a person's mind at a given time, in a given situation, rather than what that person is like all of the time, in all situations.

A central task for researchers is to identify the situations and other variables that affect whether biases come to mind and how they affect our behavior. Well before criticism of implicit bias caught on, some researchers were already developing theoretical accounts of key moderators of implicit bias/behavior relations. Friese, Hofmann, and Schmitt (2008), for example, offered systematic, detailed, theoretically derived, and empirically supported predictions about precisely when and why implicit measures should and should not predict behavior, such as whether individuals were or were not motivated to control their spontaneous impulses, whether individuals were high or low in working memory capacity (and so were differentially *able* to control their impulses), and so on.

In research on implicit bias, just as in other psychological research, such as the science of personality, the relationship between one generic construct—"anti-black bias" or "shyness"—

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and behavior is expected to be small when key moderators are ignored. And this is exactly what has been found; not a single meta-analysis of implicit measures has reported nonsignificant correlations close to zero or negative correlations with behavior. When key moderators are taken into consideration, it is clear that implicit measures are scientifically worthwhile instruments. For example, Cameron and colleagues (2012) analyzed 167 studies that used sequential priming measures. They found a small average correlation between sequential priming tasks and behavior (.28). Yet, much as Friese and colleagues (2008) predicted, correlations were substantially higher under theoretically expected conditions and close to zero under conditions where no relation would be expected. Likewise, Kurdi and colleagues' (2018) meta-analysis finds significantly higher correlations between IATs and behavior when researchers adhere to a set of best methodological practices. This finding points the way toward avenues for continued improvement of implicit measures.

The second core challenge to the measurement of implicit bias focuses on the stability of people's scores over time. This too is a serious challenge for implicit bias research, but here too the lesson is not that these tools are fatally flawed, but rather that more research is needed to continue to improve them.

In a recent longitudinal study (i.e., a study of change over time), Gawronski and colleagues (2017) find that implicit measures of self-concept, political attitudes, and racial attitudes were less stable across 1-2 months than corresponding explicit measures. It would, however, be premature to interpret such findings as evidence that implicit measures are unreliable, or generally less reliable or useful than explicit measures. The natural analogies here are to measures of heart rate and blood pressure, which fluctuate dramatically across contexts (because the measures are accurately tracking that heart rate and blood pressure themselves fluctuate dramatically), but are

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also used to measure more chronic, trait-like features of individuals. Using these tools to measure chronic constructs requires, among other things, doing as much as possible to hold fixed the contexts of measurement. Hence the phrase "*resting* heart rate." Strictly speaking, a one-time measurement of heart rate is merely capturing a fleeting event, but, with careful attention to context, it can be used to gather (partial, defeasible) evidence about more stable heart-rate dispositions. In light of these findings, several studies have explored ways to tweak implicit measures to make them more robust across contexts (e.g., Gschwendner et al. 2008; Cooley and Payne 2016).

Conclusion

Undoubtedly, there are challenges, fundamental open questions, problematic assumptions, and conflicting data in research on implicit social cognition. Perhaps the central question arising from these issues is whether they demonstrate the research to be useless or, rather, whether they point toward areas in need of further theorizing, data collection, and analysis. In my view, critics and defenders of implicit bias research should join together in calling for continued research on these challenges. Doing so is not tantamount to asserting that everything is peachy and perfect as-is, nor does it entail a commitment to widespread current assumptions (e.g., that implicit biases are unconscious) or to specific methods (e.g., the IAT). Rather, the commitment should be to avoiding ungrounded assumptions, surveying the full sweep of data, modestly keeping in mind the complexities of the human mind and social life, and aiming for improvement.

Abstract

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Criticism of research on implicit bias has grown in recent years. Psychologists, philosophers, and journalists have raised a variety of concerns. These range from very technical critiques of the way that tests of implicit bias are scored to worries that touch upon foundational methodological questions in the social sciences. Particularly in the popular press, some have drawn strong conclusions. In this chapter, I distinguish six lines of critique and reply to each. While there are many open questions and challenges facing research on implicit bias, it is a mistake, I argue, to think that the implicit bias research program ought to be abandoned. Instead, scholars ought to seek to improve our understanding of what implicit bias is, how it affects people's lives, the ways in which it is measured, and the most effective strategies to combat it.

Discussion Questions

1. Brownstein distinguishes seven lines of critique of implicit bias. Which of these is the most convincing, in your view? What are the most significant similarities and differences between these?
2. Brownstein discusses the difference between inequalities and inequities. What are some examples of inequalities that might be caused by implicit bias that aren't necessarily inequities?
3. Mac Donald argues that socioeconomic disparities between black and white Americans is due to differences in cultural values, family structure, interests, and abilities. What specific things do you think she has in mind here? How might one go about proving or disproving her claim?
4. What key facts speak for or against the claim that racial bias is a significant cause of police shootings of black Americans?

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5. Brownstein suggests that one reason why women appear to be having increased success on the tenure-track job market in philosophy is that more and more philosophers are taking gender bias seriously. How might you go about trying to prove or disprove this claim?
6. Some critics, like Hermanson, argue that discriminatory behavior that other scholars have suggested might be caused by implicit bias is more likely caused by explicit bias. What's the difference between implicit and explicit bias? Does the implicit/explicit distinction remind you of any other distinctions people have made when theorizing about the mind?
7. Brownstein argues for an "interactionist" view of the relationship between individual minds and social structures. How would you summarize this view? Use an example to show how an interactionist would analyze this example differently compared to an individualist or a structuralist.
8. What can researchers do to avoid over-selling their research in public?
9. What are some of the ways that Brownstein suggests that both proponents of implicit bias research and critics of it have cherry-picked studies that support their favored conclusions?
10. What are the two principal psychometric critiques of implicit bias research that Brownstein describes. How damning do you think these two issues are for implicit bias research?

Suggestions for Future Reading

On the measurement and nature of implicit bias

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