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Implicit Bias and Policing

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Abstract

In a time when racial prejudice is generally taboo and decision makers, including law enforcement officials, strenuously disavow the use of group-based stereotypes to make judgments that affect others, one might expect discriminatory outcomes to be unusual. However, research repeatedly indicates that discrimination is pervasive across many domains, and specifically in policing. A major cause of biased policing is likely the implicit biases that operate outside of conscious awareness and control but nevertheless influence our behaviors. Implicit biases (e.g., stereotypes linking Blacks with crime or with related traits like violence or hostility) influence judgments through processes of misattribution and disambiguation. Although psychological science gives us good insight into the causes of racially biased policing, there are as yet no known, straightforward, effective intervention programs. Nevertheless, there are several strands of research that represent promising avenues for further exploration, including intergroup contact, exposure to counter-stereotypic exemplars, and stereotype negation. Meanwhile, many police departments are adjusting their policies, trainings, and procedures to try to address biased policing and community complaints. Several common themes among those changes include banning racial profiling, collecting data, training officers, reducing discretion, and adopting new technologies. These adjustments are more likely to be successful if they incorporate the understanding that biased policing occurs in the absence of explicitly "racist" thoughts because of well-documented, pernicious stereotypes that operate largely outside of conscious awareness and control.

The historically strained state of race relations and policing in America has been further shaken in recent years as high-profile cases of unarmed Black men and boys being fatally shot have received considerable media attention and sparked protests and calls for reform. These extreme events are a legitimate cause for concern, but they are only the tip of the iceberg of a much more pervasive problem of racial discrimination in law enforcement, one that manifests itself in thousands of unnecessary pedestrian and vehicle stops daily (e.g., Jones-Brown et al., 2010) and high rates of non-lethal force (Eith & Durose, 2011, Table 18, p. 12; Jones-Brown, Gill, & Trone, 2010, Figures 11 and 12, p. 16; International Association of Chiefs of Police, 2001, Table 48, p. 45). Racially discriminatory outcomes have been amply documented across many law enforcement domains (Glaser, 2014).

We start from the presumption that most police officers do not intentionally discriminate. To be sure, there are overtly racist police officers, just as there are overtly racist individuals in almost any profession. Furthermore, some officers may deliberately use racial stereotypes in judgments about who to stop and search; it is not, after all, really that many decades since overtly discriminatory policing was a way of life. We are not aware of any research that has directly measured the extent to which actual police officers disavow the use of category-based (e.g., racial) biases in deciding who to investigate or how to investigate them. It is worth noting that Eberhardt, Goff, Purdie, and Davies (2004), using a procedure that was hardly unobtrusive, found that police officers were more likely to report that Black (and, among them, more stereotypically Black) faces looked like criminals.

Not coincidentally, in addition to the high rates of contact with police for minorities, these populations, particularly young, Black men, are dramatically overrepresented in America's jails, prisons, and probation systems (Glaser, 2014). For example, while about 0.5% of White men are serving sentences of one or more years, about 3% of Black men are. The Bureau of Justice Statistics projected in 2003 that of men born that year, 5.9% of Whites would be incarcerated at some point in their lives; for Latinos and Blacks, it was 17.2% and 32.2% (BJS, 2003). Data on crime rates (either based on victim reports or surveys on weapons- and drug-related-behaviors) cannot explain these disparities (Glaser, 2014).

Police contact is the entry point for the criminal justice system. Consequently, biases (like any preconceptions) held by the police almost certainly cause racially discriminatory decisions about whom to investigate (stop, question, search) and how to interpret their behavior, and therefore partially account for disparities in criminal justice outcomes. While implicit biases may seem subtle, the cumulative effects of repeatedly skewed perceptions and attributions likely have profound effects on life outcomes (Greenwald, Banaji, & Nosek, 2015).

From conversations with policing experts, police leaders, and rank-and-file officers as well, however, it is clear to us that at least the expressed norm is one that repudiates biased policing. Accordingly, the following discussion will focus on implicit biases – those that operate largely outside of conscious awareness and control. Again, it is our presumption that implicit biases, and the spontaneous, discriminatory judgments they give rise to, represent the lion's share of cause of biased policing in America today. However, if we are wrong (if biased policing is largely conscious and intentional), there are two implications. First, at least consideration of implicit bias will help to explain part of the problem. Second, policy makers should seek interventions (to the extent that they exist) that will address both implicit and explicit sources of bias and are not at cross-purposes.

How Implicit Biases Influence Judgments and Behaviors

In a time when racial prejudice is generally taboo, and decision makers, including police officers, strenuously disavow the use of group-based stereotypes to make judgments that affect others, one might expect discriminatory outcomes to be unusual. However, research repeatedly indicates that discrimination is pervasive across many domains (Council of Economic Advisors, 1998), and specifically in policing (Glaser, 2014). The likely culprits are the implicit biases that operate outside of conscious awareness and control but nevertheless influence our behaviors (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). The purpose of this article is to consider how implicit biases affect policing. Other essays provide clear and thorough explanations of the cognitive theory behind implicit associations (e.g., Greenwald & Banaji, 1995), the psychometric reliability of the measurement methods (Bar-Anan & Nosek, 2014), and the predictive validity of implicit bias measures for organizationally relevant behaviors (e.g., Jost et al., 2009). For readers unfamiliar with implicit attitude measures, we recommend a visit to www.projectimplicit.org. Implicit biases (e.g., stereotypes linking Blacks with crime) do not directly cause biased policing; rather, they influence judgments through a set of processes described next.

Misattribution

Attributing events or experiences to the appropriate cause is crucial to explaining and predicting behavior, such as whether a person's behavior is due to internal (dispositional) causes or external (situational) causes. However, sometimes an event or experience is attributed to an incorrect cause, a phenomenon known as misattribution. Individuals may overestimate internal causes for behavior relative to external causes, for example, ultimately viewing personality as more

influential of behavior than it truly is (Jones & Harris, 1967). One measure of implicit attitudes, the Affect Misattribution Procedure (AMP; Payne, Cheng, Govorun, & Stewart, 2005; see also Murphy & Zajonc, 1993), is itself an empirical illustration of how implicit bias can lead to misattribution. Participants are first exposed to stimuli outside of conscious awareness (i.e., subliminally) and then asked to rate subsequent novel stimuli. If participants have favorable attitudes toward the first stimulus, they also tend to rate the subsequent stimulus favorably. When participants are primed with Black faces, for example, they tend to evaluate subsequent stimuli more negatively than stimuli following White faces. Procedures like the AMP demonstrate that simply seeing someone's race/ethnicity can elicit cognitions and emotions. Because the AMP as well as precursor procedures (e.g., Wittenbrink, Judd, & Park, 1997; Greenwald, Draine, & Abrams, 1996) employ subliminal stimulus presentations (i.e., participants are not consciously aware of having seen the stimuli, let alone what they are), the effect of properties of these stimuli on responses to other stimuli necessarily reflects nonconscious (implicit, automatic) processes.

Disambiguation

Implicit biases will most influence judgment and behavior when a situation is ambiguous (i.e., when it is not readily apparent what another person is doing or is going to do). Individuals rely more, consciously or unconsciously, on prejudice and stereotypes when attempting to resolve uncertain circumstances. One study in particular directly illustrates the role of disambiguation in the application of racial stereotypes in a domain highly relevant to policing. Eberhardt, Goff, Purdie, and Davies (2004) found that college students and police officers alike were faster to identify images of weapons as they became de-pixelated when they were preceded by subliminal images of Black, as opposed to White, faces. Subjects in these experiments were literally disambiguating the stimulus (deciding what it was under varying conditions of uncertainty). The Shooter Task (Correll, Park, Judd, & Wittenbrink, 2002; see review in *Compass*, by Correll, Hudson, Guillermo, & Ma, 2014) is another example of how racial/ethnic bias can be used to disambiguate policing-relevant situations. In this task, participants are presented with images of Black and White men who are holding either guns or non-gun objects and told to "shoot" armed targets. Participants tend to respond faster and/or more accurately when the target is consistent with prevailing racial stereotypes (namely, unarmed White and armed Black targets), implicating that these stereotypes are being used to disambiguate targets. Glaser and Knowles (2008) found that implicit stereotypic associations between Blacks and weapons predicted the strength of the shooter bias. Although in some samples police officers do not show bias in their error rate (i.e., wrongfully shooting unarmed Blacks) when completing this task (Correll et al., 2007), they do consistently exhibit shooter bias in terms of reaction time (shooting armed Blacks faster than armed Whites), and it is reasonable to expect that under sufficiently stressful and ambiguous situations, this bias in latency would often translate into decision errors. Dramatic racial disparities in actual use-of-force decisions (e.g., New York State Task Force on Police-on-Police Shootings, 2010) are consistent with the patterns of results in the shooter bias research.

Cognitive load/depletion

Human cognitive resources are finite. Therefore, if a situation is highly demanding of cognitive resources (e.g., attempting to disambiguate a situation like that in the Shooter Task), fewer resources remain to make other decisions (e.g., whether or not to use force). When cognitive resources are limited, humans are more likely to be influenced by mental shortcuts like stereotypes to process target information (Bodenhausen, 1990). Govorun and Payne (2006) found that participants exhibited stronger implicit racial stereotyping (i.e., identified weapons

faster after being exposed to pictures of Black faces) on a Weapon Identification Task (WIT; Payne, 2001) when they had been subjected to a relatively depleting task. Similarly, Park, Glaser, and Knowles (2008) found that people exhibited stronger shooter bias if they first had to solve a difficult set of anagrams, although those relatively high in "implicit motivation to control prejudice" were unaffected by the cognitive depletion task, perhaps because they had automatized their control of the implicit bias.

Automatic activation

Stereotypes may only rarely be invoked consciously and intentionally. When we think about or encounter someone from a group, the stereotypes of that group come to mind automatically, just as when you see a friend, his or her name comes to mind. Employing a data analytic technique called the Process Dissociation Procedure (PDP), which separates task performance into its automatic and controlled components (Jacoby, 1991), Govorun and Payne (2006) found that when participants were cognitively depleted, they experienced a decrease in controlled processing on the WIT, while automatic processing (i.e., the activation of the association between Black and weapon) was unaffected. Similarly, the Quadruple Process Model of implicit task performance (Quad Model; Conrey, Sherman, Gawronski, Hugenberg & Groom, 2005), which extends the PDP into four processes – activation of biased associations, overcoming these biased associations, identifying the correct response, and guessing or response bias – has been employed to determine that implicit bias appears to affect task performance via activation of biased associations (Gonsalkorale, Sherman, Allen, Klauer, & Amodio, 2011). Importantly, participants in Gonsalkorale and coauthors' study who were internally (i.e., intrinsically) motivated to control their prejudice (Plant & Devine, 1998) showed a weaker activation of biased associations and greater detection of the correct responses, suggesting that the influence of implicit biases on behavior is neither inevitable nor uncontrollable.

Causal pathways

It is also important to note that the relationship between implicit bias and behavior can be bidirectional. That is to say, implicit biases can influence a person's experience of the world, and that experience can also affect implicit biases. The nature of policing could contribute to officers' implicit biases in profound ways. For example, officers encounter more criminals (or at least know when they do) in the course of doing their jobs than the average person does. If an officer, like most Americans, associates negative concepts, such as crime, with Black people, these biases may not only make an officer more likely to see a Black civilian as a criminal but would also be reinforced whenever the officer encounters Black individuals committing crimes. Similar effects could occur for White civilians, but because officers are less likely to associate Whites with crime to begin with, effects would likely be smaller for this group.

The specific stereotypes and attentional biases described in detail below can increase the likelihood that an officer will suspect and detect criminal behavior among Black and other minority citizens compared to White citizens, even if the underlying probability of offending behavior is equal between the two groups. Differential detection of offending will then reinforce mental associations between race and crime. "Hot spot" policing and similar tactics may strengthen this bidirectional relationship between implicit biases and behavior for officers who repeatedly encounter offending among minority group members, especially under conditions of geographic segregation. Mathematical modeling by Glaser (2006) illustrates how focusing law enforcement on members of a minority group can create and exaggerate disparities in criminal justice outcomes and result in an inefficient allocation of policing resources. Implicit biases and decisions (at both the individual and agency levels) may be mutually reinforcing at the expense of efficient and equitable policing.

Implicit Biases Directly Relevant to Law Enforcement Practices

Several well-studied implicit biases are particularly relevant to law enforcement because they link social groups with traits related to crime and violence. Even in the presence of consciously held egalitarian goals, the simple knowledge of these stereotypes can lead to discriminatory behavior (Devine, 1989). Because law enforcement officers, like others, are not immune to stereotyping, and because they are vested with considerable power and discretion, it is important to understand the content of these stereotypes and their potential effects on police decision making and behavior.

General trait and behavioral stereotypes

Police officers must frequently assess civilians' ambiguous behavior to decide whether to take action, and stereotypes linking Blacks with aggression have been shown to cause people to judge the behavior of a Black person as more aggressive than the identical behavior of a White person (Duncan, 1976; Sagar & Schofield, 1980). Other studies have uncovered pervasive implicit and explicit stereotypes of African Americans as dangerous, violent, and hostile (Bargh, Chen, & Burrows, 1996; Devine, 1989; Devine & Baker, 1991; Devine & Elliot, 1995; Dovidio et al., 1986; Jackson, Lewandowski, Ingram, & Hodge, 1997; Schaller, Park, & Mueller, 2003). All of these traits are closely related to criminality. They are also important factors in deciding whether someone poses a threat to personal safety, which is a critical component of officers' decisions to use force and the legal analysis of those decisions. Generally, use of force is legally justifiable when an officer perceives a threat to his or her life or physical safety. Stereotype research indicates that the race of the civilian will influence these perceptions of threat. Further research by Goff and colleagues demonstrates that Americans implicitly associate Blacks and apes. This association shifts visual attention and leads to greater endorsement of an officer's violence against a Black civilian in a video. The researchers postulate that this association reflects an implicit dehumanization that increases tolerance for violence against Black targets (Goff, Eberhardt, Williams, & Jackson, 2008).

Specific race–crime stereotypes

Stereotypes of African Americans as aggressive and subhuman have clear implications for law enforcement practice, but other research speaks more directly to the role of implicit bias in policing. Eberhardt, Goff, Purdie, and Davies (2004) demonstrated that both police officers and college students identify crime-related objects more easily after seeing (subliminally) Black faces, that they pay more attention to Black faces after activation of the concept of crime, and that both of these biases tend to be greater when the faces are those that have been judged to be more representative of Black Americans as a social group. These associations are bidirectional; individuals, including police officers, may be more likely to think about crime when in the presence of Black Americans and more likely to focus on Black Americans when they are thinking about crime. As a function of their professional role, law enforcement officers will frequently think about crime, and these studies suggest that even the abstract concept of crime will lead them to pay more attention to Black citizens. This attentional bias is especially problematic if it shifts officers' attention away from true offenders who are not Black or toward Black citizens who are not violating the law. Any effect of these biases on officers' decisions to engage with civilians raises concerns about equity and disparate impact (for a more complete discussion, see Martin & Glaser, 2012) and even effectiveness (Glaser, 2006).

Stereotypes linking African Americans to crime are also evident in the work by Banaji and colleagues (Walsh et al., 1995; Park & Banaji, 2000) who have found that when participants

are given a list of names and asked to circle the ones they think are criminals, they are far more likely to circle Black-sounding names, and it proves very difficult to get people to resist this habit. It is important to note that, although most of the research on race–crime stereotypes has focused on African Americans, several studies indicate that Latinos are similarly stereotyped as criminal and violent (CPE, 2010; Fairchild & Cozens, 1981; Jackson, 1995; Marin, 1984, Niemann Jennings, Rozelle, Baxter, & Sullivan, 1994).

Race–weapon association

Even more specific than the race–crime stereotype, and of particular relevance to racial disparities in police use of lethal force, are stereotypic associations between minorities and weapons. Although police rarely discover weapons in investigatory stops and searches (e.g., Jones-Brown et al., 2010, Figures 13A and B), one commonly cited justification for stopping large numbers of civilians is to remove illegal weapons or deter people from carrying them. Payne (2001) found that participants identified weapons more easily after a prime of an African American face, and Judd, Blair, and Chapleau (2004) demonstrated that this does not simply reflect an automatic activation of general negative evaluations, because participants identified both positively and negatively valenced objects that are stereotypically associated with Black Americans more quickly and accurately than non-stereotypic objects. This association is especially problematic if it leads to racial disparities in the decision to shoot civilians.

The shooter bias research (e.g., Correll et al., 2002) provides a compelling microcosm for understanding biased policing. First, it is a near certainty that when people exhibit shooter bias (and most do), it is unintentional. People do not *want* to shoot unarmed suspects at all, let alone in a racially discriminatory way, and most would be particularly motivated to avoid exhibiting this kind of discrimination. Nevertheless, most do. Glaser and Knowles (2008) have shown that implicit race–weapons associations predict shooter bias. Multiple studies have now shown that police officers, when tested, exhibit shooter bias (e.g., Correll et al., 2007; Peruche & Plant, 2006; Plant & Peruche, 2005). Taken together, the research on shooter bias exemplifies the profound implications of implicit biases for policing. Shooter bias probably reflects a much larger set of policing behaviors that are influenced by implicit biases, most of which (e.g., decisions to follow, stop, search, detain, etc.) would not be resisted as strenuously as shooting.

Interventions

Although psychological science gives us good insight into the causes of racially biased policing, there are as yet no known, straightforward, effective intervention programs. Many police departments engage in trainings to reduce bias, but, as is the case with "diversity" and "cultural sensitivity" trainings in other industries, there is no basis for confidence that these programs have meaningful, lasting effects (Paluck & Green, 2009). Nevertheless, there are several strands of research that represent promising avenues for further exploration.

Intergroup contact

One of the simplest, most reliable, and most powerful ways to reduce racial bias is to engage in non-negative contact with out-group members. The intergroup contact hypothesis was first described by Allport (1954), who theorized that four important elements must be present in order for bias to be reduced via contact: equal status between the groups in the situation, common goals, intergroup cooperation, and the support of authorities. A meta-analysis of hundreds of intergroup contact studies (Pettigrew & Tropp, 2006) indicates that contact meeting these criteria leads to the greatest reduction in bias, but bias reduction occurs even in the absence of

these conditions by simply increasing affinity through familiarity. Pettigrew and Tropp also surmise that institutional support may be especially important as "samples with structured programs showed significantly stronger contact–prejudice [reduction] effects than the remaining samples, irrespective of whether they were rated as having conditions beyond authority support" (p. 766). This thinking suggests that for officers, intergroup contact occurring as part of training or other department-sanctioned requirements with the clear support of supervisors may be most effective at reducing racial bias. Intergroup contact opportunities could come through partnering arrangements as well as the promotion of community-oriented policing practices (Gill, Weisburd, Telep, Vitter, & Bennett, 2014) that encourage positive interactions with members of the community.

Counter-stereotypic exemplars

Exposure to out-group members who controvert group-based stereotypes can also reduce racial bias. Recently, researchers found that participants who were exposed to counter-stereotypic stimuli (e.g., imagined a counter-stereotypic scenario, practiced an Implicit Association Test with counter-stereotypic stimuli, or imagined teammates or friends who are out-group members) showed larger reductions in implicit bias, compared to those receiving other types of interventions (e.g., perspective taking, inducing positive emotion, and valuing egalitarianism) (Lai et al., 2014; but see discussion below about the fleeting nature of these changes). In another study more directly applicable to policing, Park and Glaser (2011) found that using a modified Shooter Task with more counter-stereotypic exemplars (e.g., more armed White and unarmed Black targets) led to reduced racial bias on a subsequent unmodified Shooter Task.

Stereotype negation training

Kawakami, Dovidio, Moll, Hermsen, and Russin (2000) found that participants who practiced negating stereotypes (literally saying "no" to words consistent with the target group's stereotypes and saying "yes" to words inconsistent with stereotypes) showed reduced activation of these stereotypes on subsequent tasks. However, Gawronski, Deutsch, Mbirkou, Seibt, and Strack (2008) found that stereotype negation alone may actually enhance stereotype activation if not also accompanied by affirmation of counter-stereotypes and that affirmation of counter-stereotypes is the primary mechanism by which stereotype activation is reduced.

Multifaceted interventions

One important feature of these interventions and others like them is that they can be combined. In a recent longitudinal study, reduction in implicit racial bias was assessed after participants were given authentic feedback about their implicit racial bias, educated about bias, and trained in how to reduce bias (Devine, Forscher, Austin & Cox, 2012). Strategies for reducing bias included stereotype replacement (identifying a response as reflecting a stereotype and replacing it with an unbiased response), counter-stereotype imaging (generating and imagining in detail counter-stereotypic exemplars like those discussed above), individuation (gaining and using specific information about targets in order to reduce reliance on stereotypes), taking the first-person perspective of an out-group member, and increasing opportunities for intergroup contact. Participants who received this intervention showed a substantial reduction in implicit bias, and were more concerned about and aware of bias, compared to those who did not receive the intervention.

Effectiveness of interventions

The multifaceted approach to bias-reducing interventions is all the more important when considering the long-term effectiveness of such strategies. Recent analyses comparing the effectiveness of a number of individual interventions suggest that bias-reducing effects of nearly all interventions tested were gone 24 hours later (Lai et al., 2015). This apparent lack of effect could be due in part to using a single intervention that participants receive only once, or a "dosing" problem. This possibility seems likely, given that the multifaceted program implemented by Devine and colleagues showed effects lasting longer than 24 hours. A likely explanation of the rapid attrition of the single-faceted and less robust interventions tested by Lai et al. is that any change in the manifestation of bias may simply be canceled out once the participant returns to his or her normal environment and behavior, where she/he is likely to experience continued exposure to the stereotype.

Findings from laboratory-based research on implicit bias, and interventions that aim to reduce it, should be applied cautiously to real-world settings. Even in the lab, both implicit and explicit attitudes correlate only moderately, albeit reliably, with discriminatory behavior (Greenwald et al., 2009; Jost et al., 2009; Oswald, Mitchell, Blanton, Jaccard, & Tetlock, 2013). This is not surprising given the number and complexity of variables that influence human behavior, and even very small effects can have large consequences when aggregated over many judgments and decisions made by many individuals (Abelson, 1985; Greenwald, Banaji, & Nosek, 2015). As described below, efforts are underway to collect law enforcement data that will enable researchers to examine more thoroughly the role of individual biases in real-world policing decisions. In law enforcement and other fields where leaders are trying to address racially disproportionate outcomes, agency-level interventions that aim to preclude discriminatory behavior are more feasible than interventions at the individual level that aim to reduce biases.

Agency-level Interventions

National- and state-level policies often guide local agency-level practices. However, policing in America is highly decentralized, and departments have wide discretion in the approaches they take to training in general and mitigating bias in particular. A comprehensive list of the efforts made by thousands of agencies to reduce biased policing is beyond the scope of this article. However, we will describe several common themes among the changes departments can be (and in some cases are) making, including banning racial profiling, collecting data, training officers, reducing discretion, and adopting new technologies.

Banning racial profiling

In response to concerns about bias-based policing, many agencies have explicitly banned racial profiling. Unfortunately, given the nonconscious operation of stereotypes, described above, and that there is already a strong stigma against biased policing, it is unlikely that these bans are effective. Most officers likely have conscious goals to be egalitarian and do not intentionally allow racial bias to affect their actions. Enforcement of such bans is difficult because it requires determining which officers and which actions are influenced by stereotypes, although the data collection efforts described below can help to answer these questions. Another problem that arises with agency-level bans is their definition of racial profiling. Some departments define racial profiling as the use of race as the *sole* factor for stopping a civilian. This represents an unlikely scenario (aside from in immigration enforcement) and ignores the far more likely scenario of a civilian's race influencing (consciously or not) an officer's decision as one of multiple factors.

Training officers

Agency-level policies and procedures on bias, officer discretion, and use of force often include training interventions. Most departments also train their officers on concepts that include racial bias, community-oriented policing, and cultural competence. In some cases, litigation or legislation mandates these trainings. There is a great amount of variability in the types and depth of trainings officers receive. Unfortunately, there is little empirical evidence to support the effectiveness of such trainings, and they are rarely systematically evaluated (Paluck & Green, 2009). Some departments provide their officers with specific behavioral and environmental indicia of criminal offending to consult when making judgments about a civilian's suspiciousness. Many departments also use realistic video simulators to help officers learn to deploy their training in real time. Unfortunately, as noted previously, trainings are rarely evaluated for their effectiveness. In many cases, it is unclear how to even define a marker of success for such trainings. Some research suggests that raising awareness of unconscious stereotypes can reduce their effect on behavior (Menatti, Smyth, Teachman, & Nosek,). However, conscious efforts to control stereotyping are limited in their efficacy and can even lead to ironic increases in biased judgments (MacRae et al., 1994). Training is an important aspect of policing and will certainly be a component of any intervention that aims to reduce the effect of bias on policing decisions, but the content and delivery of such training need much more systematic investigation.

Collecting data and adopting new technology

Although many agencies have bans and trainings in place to try to curb bias-based policing, law enforcement leaders also recognize that they have limited information to help them understand the scope of the problem within their department (in the words of one police chief, "If you can't measure it, you can't manage it"). To address this information gap, some departments now collect data on civilian stops and use of force, with suspect demographics, such as race, included. Even when they have the capacity to analyze these data, departments run into the "benchmark" problem. If police stop African American civilians at a rate that is greater than their representation in a particular jurisdiction, this does not necessarily indicate that policing decisions are influenced by racial bias, because it does not take into account the potential that civilians are offending at different rates or even moving through different corridors at different rates. Because it is very difficult to accurately assess offending rates, analysts have used "hit rate" (or "outcome test") analysis as an imperfect but informative proxy (e.g., Knowles, Persico, & Todd, 2001; Sanga, 2009). The basic logic of hit rate analyses is as follows: If contraband is discovered in a greater percentage of police encounters with White civilians than in encounters with minority civilians, then officers are likely requiring a higher level of suspiciousness to stop and search Whites. Better, more consistent data collection will make estimates of bias in policing more reliable.

One development that could promote better data collection is the increasing use of cameras, both body worn and dashboard mounted, to record police interactions with civilians. Cameras provide agency leaders and analysts with a rich source of information in cases where complaints or questions arise, and footage can help in trainings. Cameras also hold potential to have a deterrent effect on bias in policing. However, analyzing thousands of hours of audio and video recordings can be logistically complicated and prohibitively costly. Perhaps most important, for the present purposes, even the specter of one's behavior being reviewed may not help officers avoid the impact of implicit biases on their behaviors, any more than they can prevent bias from affecting them on the shooter task. That said, some persistent effort, if motivated by camera recording, could mitigate biased policing, especially if the cameras remind officers to follow

procedure and avoid informal bases for judgments (see next section). In this sense, the ever-presence of cameras may serve to increase a sense of accountability, which has been shown to reduce stereotype-based judgments (Lerner & Tetlock, 1999). Regulating if and when cameras can be turned off and how data are stored and shared represents a crucial juncture for policy makers.

Reducing discretion

Although the courts are generally highly deferential to officers' decisions, departmental policies need not take the same approach. Policy changes enacted by law enforcement agencies can involve reducing the amount of discretion officers have in their decisions involving civilians. As one example, the US Customs Service implemented a new policy in 1999 that greatly restricted the criteria for conducting searches (Gladwell, 2006). After this policy change, the number of searches decreased dramatically, hit rates increased dramatically, and racial disparities decreased (Ramirez et al., 2003). Reducing discretion is a promising approach deserving of investigation for several reasons. First, it reduces the likelihood that stereotypes will influence behavior. We know from social psychological experiments that ambiguity leads to an increased reliance on cognitive heuristics like stereotypes to fill in missing information (Chaiken, Liberman, & Eagly, 1989; Petty & Cacioppo, 1986) and reducing discretion should decrease opportunities for the influence of heuristics. Second, if reductions in discretion are combined with the prescription of well-established indicators of criminal behavior, they should increase officers' efficiency by directing their attention toward behavioral and situational criteria that are more likely to point toward criminal activity.

Law enforcement departments can re-evaluate their policies regarding officers' decisions to use force against civilians, potentially limiting officers' discretion. These use-of-force decisions are quite salient in the relationship between police and the communities they serve because they can have lethal consequences, despite their relatively low frequency compared to decisions to stop or arrest civilians. The Oakland Police Department, under the guidance of an independent monitor, documents every incident involving force, including any incident in which a firearm is pointed at another person (Quarterly Report of OPD Independent Monitor, 2014). Strict criteria on, coupled with required documentation of, use of force are one form of reducing officers' discretion. Some tactics and incidents that would not face legal challenges are nevertheless strictly forbidden by agency policies and lead to disciplinary action or retraining. Again, these policy changes have generally not been tested empirically. Given the potentially dire consequences of use-of-force decisions, and the conditions of time pressure, stress, and ambiguity under which officers make these decisions, this is an important area for investigation.

Conclusion

As difficult as their job may be, and as big a toll as it may take on them emotionally, it is important to bear in mind that police officers are normal human beings with normal brains and mental processes. Consequently, they are prone to make the same stereotype-biased judgments the rest of us are. Because they are often operating under conditions of uncertainty, high discretion, and stress and threat, the pervasive stereotypes linking Blacks and Latinos with violence, crime, and even specifically weapons are likely to cause them to make misattributions in seeking to disambiguate the intentions and behaviors of citizens. This can lead to racially disparate rates of stops, searches, arrests, and use of force. Several interventions that aim to reduce bias or discriminatory behavior at the individual level warrant further investigation in the policing context. Non-negative intergroup contact is especially promising given its strong evidence base and that it

could be achieved through strategies that are also politically feasible (e.g., increasing the diversity of an agency, community-oriented policing). Meanwhile, many police departments are adjusting their policies, trainings, and procedures to try to address biased policing and community complaints. These adjustments are more likely to be successful if they incorporate the understanding that biased policing occurs in the absence of explicitly "racist" thoughts because of well-documented, pernicious stereotypes that operate largely outside of conscious awareness and control.

Short Biographies

Katherine Spencer is a PhD candidate in Social/Personality Psychology at the University of California, Berkeley. Her research focuses on the relationship between implicit bias and behavior, with special attention to the control of implicit bias. She is particularly interested in studying this relationship in public policy-relevant domains such as policing behavior. She is currently examining the role of egalitarian motivation in controlling implicit bias, with a view toward practical applications of this knowledge, such as interventions to boost motivation and training to reduce the effects of implicit bias.

Amanda Charbonneau is a PhD student at University of California, Berkeley's Goldman School of Public Policy. She conducts research at the intersection of law and psychology using experimental, observational, and modeling methods. She studies suspicion as a legal and psychological construct, and analyzes law enforcement policies and practices.

Jack Glaser received his PhD in psychology from Yale University in 1999 and is an associate professor and the Associate Dean at the Goldman School of Public Policy at the University of California, Berkeley. He conducts research on stereotyping, prejudice, and discrimination, examining phenomena ranging from unconscious thoughts, feelings, and motives to discriminatory behaviors like racial profiling and hate crimes. His primary interest is in biased policing, and he works with criminal justice institutions to study and improve law enforcement.

Note

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