

# The Social Psychology of Racially Biased Policing: Evidence-Based Policy Responses

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## Abstract

Police killings of unarmed African Americans, such as George Floyd in 2020, continue to cause nationwide protests and calls for change. Psychological science knows much about biased policing and can inform policy to promote equitable policing. Social psychology's extensive findings on stereotyping, attitudes, and intergroup relations help clarify the role of officer racial bias. This article reviews implicit and explicit bias, race-crime stereotypes, intragroup bias, ingroup favoritism, stereotype threat, and dehumanization in policing interactions, all of which can lead to racially disparate use of force. Based on this science, some policy responses can mitigate bias: Officer level de-biasing training, body-worn cameras, automatic license plate readers, and federal policing reform legislation are discussed. The lack of a coordinated, national effort to collect and analyze police use of force data undermines tracking fatal incidents and bias therein, which are therefore harder to remediate.

## Keywords

police, racial bias, stereotypes, implicit bias, use of force, training, body-worn cameras

## Tweet

Psychological science tells how human cognition fosters racially biased policing. No national system tracks use of force and death in police custody. This hurts reform efforts. Highly publicized incidents are a fraction of what happens. Good data (can) = good policy.

## Key Points

- Social psychology's extensive findings—the brain's dual processing system; the impact of stereotypes on judgments, decisions, and behaviors; and the pervasiveness of implicit bias across groups—all help explain bias in policing.
- The implicit stereotype linking race and crime impacts (a) visual processing, such as how quickly weapons are perceived, as well as (b) mistaken police decision-making. Although often unrelated to implicit biases, explicit biases also have deleterious effects on policing outcomes.
- Intergroup bias influences judgments and behavior between racial groups—the focus of most police training and de-biasing initiatives. Another transmission route, intragroup bias, is rarely the focus of such initiatives.
- Pro-White favoritism and dehumanization of African Americans both bias policing.
- No national database collects, records, and analyzes police use of fatal force, which hinders tracking fatal force incidents, and any bias therein.

- Policy responses to bias in policing include: Officer level de-biasing training, body-worn cameras, automatic license plate readers, and federal police-reform legislation. Such responses often have limited efficacy and/or raise civil liberty concerns.

## Introduction

The year 2020 brought unprecedented large-scale protests across the United States—and internationally—marching against a seemingly familiar outcome: a controversial death of an unarmed African American by police. Scenes were reminiscent of those 6 years earlier: when a White police officer shot 18-year old African American Michael Brown in Ferguson, Missouri. Brown's death sparked widespread protests, an exhaustive and damning report by the Department of Justice, and a political movement (#BlackLivesMatter) that persists to this day. The pattern and outrage continued in 2020 with the rapid succession of the deaths of African Americans Breonna Taylor, who police shot while she slept in her bed, and George Floyd, who died after a police officer knelt on his neck for 8 min and 46 s. The recent spate of racially charged incidents raises the question of what, if anything, has changed in terms of racial bias in policing since

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the shooting of Michael Brown. Far from being isolated incidents, police violence against racial minorities has a much deeper and sordid history in the United States. What does psychological science know about biased based policing, and how can it inform policy to promote equitable policing outcomes?

To address this question, this article overviews the psychological science of racial bias in policing. It begins with the social psychology of bias, and then focuses on empirical research on policing and psychological bias. Finally, it reviews policy relevant to policing and bias, discussing the implications of the underlying science for policy solutions.

## Social Psychology of Bias

Despite the lack of a national database to track police use of force and police killings (Goff & Kahn, 2012; Kahn & Martin, 2016), racial disparities in policing outcomes are well documented. Blacks and other racial minorities are more likely to be subjected to police contact, stopped, searched, and have both fatal and nonfatal force used against them compared with Whites (e.g., see Kahn & Martin, 2016 for a review). When considering fatal force, police kill Black Americans at twice the rate of White Americans, and that disparity increases when the individual is unarmed (“Fatal Force,” 2020). Racial disparities in policing outcomes stem from a variety of factors, including police policies and practice, as well as structural inequalities in education, income, housing, and employment. Although an overall dearth of scientific information addresses officer racial bias (Goff & Kahn, 2012), social psychology’s extensive findings on stereotyping, attitudes, and intergroup relations can clarify.

First, consider how the brain processes information using a dual processing system. One system represents fast, effortless, automatic processing that occurs beneath awareness and without intention. The other is controlled processing, involving slow, conscious, and effortful processing associated with deliberative thought (Smith & DeCoster, 2000). These systems function in tandem to allow for efficient decisions in a complex social world. Associated with these two systems are two different types of attitudes that individuals hold: explicit and implicit. Explicit attitudes represent conscious beliefs held about a group, which are able to be reflected upon and verbalized. Implicit attitudes, on the contrary, are automatic associations and evaluations held between concepts, beliefs, or groups (Fazio & Olson, 2003; Greenwald & Banaji, 1995). These happen beneath conscious awareness and without intention, and are often automatically activated in relevant situations. Implicit and explicit attitudes are related but distinct, more likely to diverge for sensitive topics such as prejudice (Greenwald et al., 2009).

Second, evidenced by millions of individual responses, implicit bias is pervasive across groups (e.g., see Project Implicit at <https://implicit.harvard.edu/implicit/>; Nosek

et al., 2007). Individuals from all backgrounds, including police and community members, can hold subconscious associations about social groups. Commonly held implicit biases include the implicit preference for young over old, thin over fat, White over minority, and able over disabled (Nosek et al., 2007). Implicit bias forms based on repeated exposure to cultural stereotypes throughout society, creating automatic and unconscious connections between two concepts (Fazio & Olson, 2003). Because of its automatic nature, it differs from traditional forms of explicit racism or prejudice. The subtle and hidden nature of implicit bias can make it particularly pernicious, as it is more likely to be undetected and unchallenged.

Finally, consider what social psychology reveals about stereotypes and their impacts on judgments, decisions, and behaviors (for a review, see Hilton & Von Hippel, 1996). Stereotypes are cognitive beliefs about the typical characteristics associated with a group, and can function at both the explicit and implicit level (Greenwald & Banaji, 1995). Stereotypes as heuristics speed up processing by overapplying perceived traits to all group members (e.g., “criminal” to all Black people). Stereotypes overestimate the dissimilarity between groups and underestimate variance within a particular group (e.g., “they’re all alike and different from us”). They serve to disambiguate stimuli, shifting perceptions to confirm the stereotype. This stereotypic perceptual process influences what is attended, encoded, recalled, and responded to, all relevant in a policing context.

## Psychology of Racial Bias in Policing

Police officers, like anyone, can hold implicit biases and be influenced by stereotypes. Most relevant is the implicit stereotype associating racial minorities with criminality and violence. For example, on an Implicit Association Test (IAT), individuals are faster to categorize weapons paired with African Americans, and slower for weapons paired with Whites (Nosek et al., 2007). The stereotype-consistent pairing of Blacks with weapons facilitates categorization on the IAT. The race-crime implicit association is strong and widespread, with the majority of White individuals holding this implicit stereotype (Nosek et al., 2007).

The race-crime implicit stereotype can affect police officers in a variety of ways. First, the race-crime implicit stereotype impacts visual processing, such as the speed of perceiving weapons. In experiments using degraded (blurry) images, brief exposure to Black faces facilitates identification of crime-related objects (Eberhardt et al., 2004).

The race-crime implicit stereotype can subsequently impact police decision making. Mirroring real-world fatal shooting incidents of unarmed African Americans, implicit stereotypes impact decisions to shoot, called shooter bias (Correll et al., 2002). Using simulations, targets of varying races appear carrying a dangerous object (e.g., gun) or a

neutral object (e.g., a wallet or cell phone), and participants make fast decisions to either shoot or not shoot. Participants are more likely to mistakenly shoot unarmed Blacks compared with unarmed Whites, and mistakenly not shoot armed Whites compared with armed Blacks. Relatedly, they are faster to correctly shoot an armed Black target, and slower to shoot an armed White target. Similar effects target other racial groups with criminality stereotypes, such as Latinos (Sadler et al., 2012).

Mistaken decisions result from implicit bias, unrelated to explicit attitudes. Shooter bias is driven by the salience of the race-crime stereotype (Correll et al., 2002). Racial minorities can also hold this implicit association, and as such, can also be affected by shooter bias (Correll et al., 2002). Racially biased shooting decisions are more likely in contexts perceived as dangerous that prime racial stereotypes, and similarly by perceived “racialized” clothing, like sweatshirts and hoodies (Kahn & Davies, 2017). In rare shooter-bias studies with police, officers can demonstrate this same bias, at least initially (Plant & Peruche, 2005), but not inevitably (Correll et al., 2007), particularly with good training (Sim et al., 2013).

Implicit bias does not exclude the deleterious impact of explicit bias within policing. While implicit bias might be more influential in a quick shooting decision under automatic processing conditions, explicit bias likely plays a stronger role under controlled processing, in which intentionality takes precedence. Indeed, considering the death of George Floyd, where Officer Derek Chauvin kept his knee on Floyd’s neck for more than 8 and half minutes, explicit bias seems more likely.

In addition to fatal force incidents, officers are also more likely to use nonfatal force on African Americans (Goff et al., 2016). Breaking down nonfatal force police–suspect interactions helps to understand where stereotypes pervade these interactions (Kahn et al., 2017). Police narrative reports of use of force case incidents were coded into discrete dyadic sequences, step-by-step units in the interaction. Each step represented a behavior by the suspect, coded for level of resistance, and the officer response, coded for level of force. Police used higher levels of force earlier with Black and Latino suspects, compared with Whites. Delay allows more back-and-forth discussion or possible de-escalation techniques. Furthermore, the same noncompliance or resistance from Blacks and Latinos received more force than when coming from Whites. Stereotypes linking racial minorities with violence likely cause similar actions to be perceived as more threatening by racial minorities, increasing use of force.

Implicit and explicit bias can also impact routine police interactions without force, such as a traffic stop. Because implicit bias impacts visual perception, it may influence whom an officer monitors and views as suspicious. During a stop, implicit bias can affect tone of voice, types

of questions, and the amount of discretion. Body camera footage from the Oakland Police Department provided approximately 36,000 language snippets from nearly 1000 traffic stops: Officers’ speech toward Black drivers was subtly less respectful than speech toward White drivers (Voigt et al., 2017). More respectful language used with White drivers included words such as apologies, use of last names and formal titles, and expressing gratitude and reassurance. Conversely, Black drivers received less respectful words such as first names, negative words, and “no” language. In another study, officers tended to use deeper tones when speaking to racial minorities compared with Whites, particularly when experiencing a perceived threat to their manhood (Goff & Martin, 2012). Such subtle differences in tone and verbiage demonstrate how bias, even unintentionally, can pervade police behavior.

While implicit bias influences intergroup judgments and behavior, another transmission route for bias is within groups. One example of intragroup bias is phenotypic stereotypicality, how strongly an individual physically resembles a typical group member (Eberhardt et al., 2004). Racial minorities higher in phenotypic stereotypicality (e.g., darker skin) are subjected to more explicit and implicit stereotyping than those with lower stereotypicality from the same racial group (Eberhardt et al., 2004). In studies of shooter bias, highly phenotypic Blacks are more likely to be mistakenly shot compared with Blacks lower in stereotypicality (Kahn & Davies, 2011). Similarly, police officers are more likely to view highly stereotypic Blacks as criminals than lower stereotypic Blacks (Eberhardt et al., 2004). People are less aware of intragroup bias based on phenotypic representation and less likely to control such biases (Blair et al., 2004). Anecdotally, many high-profile police shootings have involved Black victims who were higher in phenotypic stereotypicality.

Beside anti-Black bias, pro-White bias gives preferential treatment to people perceived as part of one’s ingroup. Favoring the ingroup can occur independent of outgroup derogation (Mummendey & Otten, 1998). As the majority of police officers are often White, ingroup favoritism within policing may give White civilians more leeway, seeing their actions as more positive, or allowing more discretion. In one policing study, White suspects whose phenotype was stereotypicality more White were subjected to less force during arrest (Kahn et al., 2016). That is, Whiteness served as a protective factor.

An extreme, and potentially distinct, form of intergroup bias relevant to policing is dehumanization, being viewed as less than human (Kahn et al., 2015). African Americans have a long history of being dehumanized in the United States, particularly by associating them with apes, which excuses, even justifies, violence. Within policing, officers’ implicit dehumanization of Blacks was associated with the disparate application of police use of force against Black children

(Goff et al., 2014). Further associated with dehumanization is discounting Blacks' physical pain (Trawalter et al., 2012). Within policing, this may translate to less concern about extreme levels of force. Indeed, some of the more egregious acts of police violence against racial minorities, such as the death of George Floyd, where a White officer kneeled on his throat, and Freddie Gray, who had his spinal cord broken while in police transport, may be consistent with dehumanization and denial of pain.

Another way that race-crime stereotypes can impact interactions for both community members and police is through stereotype threat. Stereotype threat involves the fear of being judged based on negative group stereotypes (Steele, 1997). Individuals under stereotype threat experience anxiety, arousal, and impaired cognitive processing and decision making. Within a policing interaction, stereotype threat can be present on both sides: racial minorities do not want to be seen as a criminal because of their race, while officers may not want to be seen as a racist. Both parties may then experience nervousness, anxiety, and distracted thinking, impairing interactions and escalating force. Indeed, racial minorities consistently report experiencing stereotype threat when interacting with the police (Najdowski et al., 2015), particularly those higher in phenotypic stereotypicality, which can decrease trust and a willingness to cooperate with police (Kahn et al., 2017). Furthermore, police officers' own stereotype threat is associated with higher endorsement of excessive force and lower endorsement of fair policing, through lower perceptions of self-legitimacy (Trinkner et al., 2019). That is, the more officers experience stereotype threat, the more they support forceful policing.

While stereotype threat may contribute to racially biased outcomes, police officers receive little to no training on it. In fact, an analysis of police training in the United States found significant overlap between the signs of pre-attack danger indicators being taught to police (e.g., nervousness, arousal, reduced cognitive capacity) and the symptoms of stereotype threat (Kahn et al., 2018). The conflation of these signs being interpreted as danger can, again, increase the likelihood that interactions escalate in severity.

## Evidence-Based Policy Response to Racial Bias in Policing

Based on the science of bias, policies that promote transparency, reduce officer discretion, provide clear and objective guidelines, and increase accountability are promising to reduce biased policing. Here, responses start with the individual officer and build to departmental and federal policy.

The most direct response employed by police departments to address racial bias in policing has been *officer-level debiasing training*. Trainings vary from discussing the historical racist history associated with policing, to local context and history, and anti-prejudice and tolerance frameworks.

One popular police training is *Perspectives on Profiling* by the Museum of Tolerance, which focuses on racial profiling and its effects on individuals and communities. Trainings may be mandated by the state or adopted at the departmental level, as there is no federal requirement on bias training. Assessing the efficacy of training is nearly impossible, as information is often neither collected nor evaluated.

More recently, a push for implicit bias trainings in police departments involves teaching about the science of implicit bias, taking the Implicit Association Test (IAT) as a personal demonstration, discussing its influence on policing, and practicing techniques to reduce implicit bias using role-playing scenarios (Kahn, 2019). Most implicit bias trainings or interventions use some combination of strategies to reduce bias including awareness of implicit bias, training on counter-stereotyping, evaluative conditioning, and activating egalitarian goals and motivations (Lai et al., 2014).

Implicit bias training alone does not change police behavior. Implicit bias, due to being automatic associations beneath one's conscious awareness, is difficult to reduce, especially as continued exposure to societal stereotypes reinforces connections outside of a training session. Meta-analyses of implicit bias interventions demonstrate small effects of particular strategies on changing implicit bias, but these effects can rebound shortly afterward (Forscher et al., 2019; Lai et al., 2014, 2016). Implicit bias interventions can play a role in establishing the foundation, buy in, and motivation to change implicit bias among individuals and organizations, but should be paired with a larger departmental policy strategy and continued investment in departmental equity.

A final common type of equity training and intervention focuses on procedural justice, which involves improving trust between police and the communities they serve. Procedural justice refers to perceived fairness and transparency in the decision making process, and perceptions of procedural justice influence trust in the police, police legitimacy, and acceptance of police decisions (Tyler & Huo, 2002). Procedural justice interventions focus on providing community members with voice, displaying respect, providing answers to questions, and explaining outcomes. One large-scale intervention conducted across six cities, "The National Initiative for Building Community Trust and Justice," centered on three core areas: implicit bias, procedural justice, and reconciliation, involving trust-building, officer training, departmental policy changes, and police-community engagement. Overall perceptions of police racial bias improved in these communities (Fontaine et al., 2019), at least in the short term.

Beyond individual training, larger departmental and federal policies aim at reducing bias in policing. Following the protests in Ferguson after the killing of African American Michael Brown, President Obama commissioned the President's Task Force on 21st Century Policing, in which a group of law enforcement experts convened to chart a new path forward for police. In 2015, the task force released its

final report which made recommendations organized around six “pillars”: Building Trust and Legitimacy, Policy and Oversight, Technology and Social Media, Community Policing and Crime Reduction, Officer Training and Education, and Officer Safety and Wellness (President’s Task Force on 21st Century Policing, 2015). The report emphatically called on departments to adopt *community policing* (Pillar 4), which partners police and community to work collaboratively to “co-produce public safety” (p. 3). The report explicitly calls for law enforcement culture to “embrace a guardian—rather than a warrior—mind-set,” adopting procedural justice and transparency as guiding features. Community policing emphasizes that police spend time in the areas they police to build collaborative relationships and get to know the residents to develop trust. Despite these recommendations, police departments greatly vary on community policing as a departmental model. During President Trump’s administration, the roadmap laid out by the task force has largely been shelved, in favor of a stricter law-and-order approach.

*Body-worn cameras* stand out as another increasingly popular policy response to bias in policing (Miller & Toliver, 2014). Body-worn cameras could help resolve contradictory accounts of violent police–civilian encounters, via later third-party review. Despite the promise of increased transparency and accountability, body-worn cameras raise numerous questions, including their efficacy at reducing biased behaviors.

First, although theories of deterrence posit that the risk of detection factors into the decision to transgress (e.g., Klepper & Nagin, 1989), it is not clear that body-worn cameras reduce objectionable police behavior. Randomized control trials have found no statistically significant effect of body-worn cameras on use of force nor civilian complaints (Yokum et al., 2017). Other studies, however, have found body-worn cameras associated with a reduction in citizen complaints (Farrar, 2013; Goodall, 2007), use of force (Farrar, 2013), and assaults on officers (ODS Consulting, 2011). However, the potential for de-policing (i.e., disengagement) when officers are wearing body-worn cameras could contribute to decreased force findings.

Second, a number of factors determine the utility of what is recorded, including the decision to start or stop recording and the limited perspective of any given camera. Third, any recording will itself be subject to interpretation, analysis, and debate, as well as subject to the positionality of the viewer. Moreover, as evidenced by recent events, video of violent police encounters can exacerbate schisms rather than foster unity between police and residents. Fourth, body-worn cameras raise intractable issues of privacy versus liberty for both officers and the public. At the federal level, body-worn cameras have received significant funding and expressions of support (International Association of Chiefs of Police, 2004), while police executives see these cameras as key to preventing problematic policing (Miller & Toliver, 2014; Smykla

et al., 2016) and protecting police from assault or false complaints (ManTech Advanced Systems International, Inc, 2012). Similarly, the public strongly supports body-worn cameras for the police, despite these potential concerns (Cato Institute, 2016).

Given the various issues discussed and the lack of evidence on its effectiveness in reducing racial bias, body-worn cameras, despite their increasing prominence, are unlikely to vastly change police behavior and disparate policing outcomes. One can simply look to prominent police fatal force incidents against African Americans in which police wore body cameras that did not prevent the deadly outcomes, such as the death of Eric Garner. Inasmuch as body cameras serve to enhance officer accountability for their actions, they have the potential to reduce bias. However, the accountability piece has thus far been largely lacking.

Policies that automate decision-making, and thus reduce ambiguity and officer discretion, may reduce bias. One example is Automatic License-Plate Readers (ALPRs), which are computer-controlled cameras that can read and record passing license plates. ALPRs have the potential to mitigate bias by constraining officer decisions on who to stop by providing standards to follow. It could allow officers to better focus on “higher quality stops,” by providing a more objective basis to initiate a stop (Policing Project at NYU Law, 2019). Although this technology raises numerous ethical questions and civil liberty concerns, the use of ALPRs is increasingly widespread. In 2013, 63% of law enforcement agencies with at least 100 sworn officers reported using ALPRs, and the number was expected to increase, spurred by federal and state funding (Lum et al., 2016). Although limiting officer discretion could reduce the reliance on stereotypes when deciding who to stop, the use of ALPRs is not likely to entirely replace officer decision-making, allowing bias to play a role.

The science of stereotyping and prejudice also suggest reforms and policy not yet adopted, which can help to produce equitable policing. As noted earlier, no national database collects, records, and analyzes police use of fatal force (Goff & Kahn, 2012; Kahn & Martin, 2016). The lack of such information hinders tracking fatal force incidents, and any bias therein. Independent attempts to catalog police killings have attempted to fill the void. For example, *The Washington Post* maintains a database (“Fatal Force,” 2020) drawing on news reports, social media, and police information about police shootings that kill a civilian (“Fatal Force,” 2020). Other efforts include: Mapping Police Violence, Fatal Encounters, U.S. Police Shootings Database, KilledbyPolice.net, and a “Killed by Police” Facebook page. Such databases estimate that between 1000 and 2000 people were killed by police in 2019. Relatedly, the Center for Policing Equity has paired with police departments to create use of force databases to track and study racial disparities (e.g., the National Justice Database). However, it relies on the voluntary

compliance of departments that “opt-in.” Achieving comprehensive nationwide metrics is contingent on federal reporting requirements.

Thus far, federal attempts to track such metrics have been largely inefficient, unreliable, and unsuccessful. For example, Congress reauthorized the Death in Custody Reporting Act of 2000 (P.L. 106–297) in 2014, which requires states to provide quarterly reports on “any person who is detained, arrested, en route to incarceration, or incarcerated in state or local facilities or a boot camp prison.” Yet, compliance with the reporting requirement remains unclear. The work of the Bureau of Justice Statistics (BJS) further brings to light the problems with reporting. The BJS undertook a laborious process to generate data on deaths in custody, involving automated searches to find articles, manually sorting through those, and then contacting local law enforcement agencies and medical examiners (Bialik, 2016). In their assessment of the number of arrest-related deaths in a 3-month period in 2015, the BJS found a sizable discrepancy between the media-identified and agency-reported deaths: in the same time period that the media reported 377 deaths, law enforcement agencies only reported 48 (Banks et al., 2016). Establishing a federally mandated, accurate, and comprehensive database tracking both police use of force and deaths in custody would significantly aid in assessing, and addressing, racial biases in policing outcomes.

Most recently, in response to George Floyd’s killing in 2020, the U.S. House of Representatives passed the “George Floyd Justice in Policing Act of 2020” (HR 7210), which is a comprehensive measure of policing reform to address racial bias in policing. To increase transparency, the bill would require departments to collect, standardize, and report use of force data based on race, gender, disability, religion, and age. The bill also institutes measures to hold police accountable for biased actions. For example, it would increase the ability to prosecute police misconduct and reform qualified immunity, which bars individuals from collecting damages against officers. A National Police Misconduct Registry would track and reduce the rehiring of problematic officers. It would also expand the power of the Department of Justice to investigate and reform problematic police departments through the use of “pattern and practice” investigations. It would ban the use of no knock warrants, which were involved in the death of African American Breonna Taylor, and problematic police tactics, such as the choke hold that killed George Floyd. Following already instituted national trends, it would require the use of body cameras and institute implicit bias training, as discussed above. In sum, such measures would aid in transparency, data collection, and accountability, all of which have the potential to reduce bias if they are enacted and enforced.

Informed by this science, officer training, the use of technology to provide objective accounting and increased accountability, and federal policies to track, prosecute, and

remediate problematic officers and departments can aid in producing more equitable policing outcomes.

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### References

- Banks, D., Ruddle, P., Kennedy, E., & Planty, M. G. (2016). *Arrest-related deaths program redesign study, 2015-16: Preliminary findings*. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.
- Bialik, C. (2016, December 15). The government finally has a realistic estimate of killings by police. *FiveThirtyEight*. <https://fivethirtyeight.com/features/the-government-finally-has-a-realistic-estimate-of-killings-by-police/>
- Blair, I. V., Judd, C. M., & Fallman, J. L. (2004). The automaticity of race and Afrocentric facial features in social judgments. *Journal of Personality and Social Psychology*, *87*(6), 763–778.
- Cato Institute. (2016). *Cato Institute/YouGov 2016 Criminal Justice Survey*. <https://www.cato.org/policing-in-america/chapter-4/police-body-cameras>
- Correll, J., Park, B., Judd, C. M., & Wittenbrink, B. (2002). The police officer’s dilemma: Using ethnicity to disambiguate potentially threatening individuals. *Journal of Personality and Social Psychology*, *83*, 1314–1329. <https://doi.org/10.1037/0022-3514.83.6.1314>
- Correll, J., Park, B., Judd, C. M., Wittenbrink, B., Sadler, M. S., & Keesee, T. (2007). Across the thin blue line: Police officers and racial bias in the decision to shoot. *Journal of Personality and Social Psychology*, *92*(6), 1006–1023.
- Eberhardt, J. L., Goff, P. A., Purdie, V. J., & Davies, P. G. (2004). Seeing Black: Race, crime, and visual processing. *Journal of Personality and Social Psychology*, *87*, 876–893.
- Farrar, W. (2013). *Self-Awareness to being watched and socially-desirable behavior: A field experiment on the effect of body-worn cameras and police use-of-force*. Police Foundation.
- Fatal force. (2020, July 1). *The Washington Post*. <https://www.washingtonpost.com/graphics/investigations/police-shootings-database/>
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, *54*, 297–327.
- Fontaine, J., Esthappan, S., La Vigne, N., Lawrence, D. S., Jannetta, J., & Vásquez-Noriega, A. (2019). *Evidence of change in six cities participating in the national initiative for building community trust and justice*. Urban Institute.
- Forscher, P. S., Lai, C. K., Axt, J. R., Ebersole, C. R., Herman, M., Devine, P. G., & Nosek, B. A. (2019). A meta-analysis of

- procedures to change implicit measures. *Journal of Personality and Social Psychology*, 117(3), 522–559.
- Goff, P. A., Jackson, M. C., Di Leone, B. A. L., Culotta, C. M., & DiTomasso, N. A. (2014). The essence of innocence: Consequences of dehumanizing Black children. *Journal of Personality and Social Psychology*, 106(4), 526–545.
- Goff, P. A., & Kahn, K. B. (2012). Racial bias in policing: Why we know less than we should. *Social Issues and Policy Review*, 6, 177–210.
- Goff, P. A., Lloyd, T., Geller, A., Raphael, S., & Glaser, J. (2016). *Science of justice: Race, arrests, and police use of force*. Center for Policing Equity, University of California, Los Angeles.
- Goff, P. A., & Martin, K. D. (2012). *Unity breeds fairness: The consortium for police leadership in equity report on the Las Vegas metropolitan police department*. Consortium for Police Leadership in Equity.
- Goodall, M. (2007). *Guidance for the police use of body-worn video devices*. Home Office. <http://library.college.police.uk/docs/homeoffice/guidance-body-worn-devices.pdf>
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, 102, 4–27.
- 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, 17–41.
- Hilton, J. L., & Von Hippel, W. (1996). Stereotypes. *Annual Review of Psychology*, 47, 237–271. <https://doi.org/10.1146/annurev.psych.47.1.237>
- International Association of Chiefs of Police. (2004). *The impact of video evidence on modern policing*. <https://cops.usdoj.gov/RIC/Publications/cops-w0404-pub.pdf>
- Kahn, K. B. (2019). Conducting a successful implicit bias training in schools and organizations. In G. Gullo, K. Capatosto, & C. Staats (Eds.), *Implicit bias in schools: A practitioner's guide* (pp. 149–160). Routledge.
- Kahn, K. B., & Davies, P. G. (2011). Differentially dangerous? Phenotypic racial stereotypicality increases implicit bias among ingroup and outgroup members. *Group Processes & Intergroup Relations*, 14, 569–580.
- Kahn, K. B., & Davies, P. G. (2017). What influences shooter bias? The effects of suspect race, neighborhood, and clothing on decisions to shoot. *Journal of Social Issues*, 73, 723–743.
- Kahn, K. B., Goff, P. A., Lee, J. K., & Motamed, D. (2016). Protecting whiteness: White phenotypic racial stereotypicality reduces police use of force. *Social Psychological and Personality Science*, 7, 403–411.
- Kahn, K. B., Goff, P. A., & McMahon, J. M. (2015). Intersections of prejudice and dehumanization: Charting a research trajectory. In W. D. Hund, C. W. Mills, & S. Sebastiani (Eds.), *Simianization apes, gender, class, and race (racism analysis—yearbook 6, 2015-2016)* (pp. 223–241). LIT Verlag.
- Kahn, K. B., Lee, J. K., Renauer, B., Henning, K., & Stewart, G. (2017). The effects of perceived phenotypic racial stereotypicality and social identity threat on racial minorities' attitudes about police. *Journal of Social Psychology*, 157, 416–428.
- Kahn, K. B., & Martin, K. M. (2016). Policing and race: Disparate treatment, perceptions, and policy responses. *Social Issues and Policy Review*, 10, 82–121.
- Kahn, K. B., McMahon, J. M., & Stewart, G. (2018). Misinterpreting danger? Stereotype threat, danger indicators, and police-citizen interactions. *Journal of Police and Criminal Psychology*, 33, 45–54.
- Kahn, K. B., Steele, J., McMahon, J. M., & Stewart, G. (2017). How suspect race affects police use of force in an interaction over time. *Law and Human Behavior*, 41, 117–126.
- Klepper, S., & Nagin, D. (1989). The deterrent effect of perceived certainty and severity of punishment revisited. *Criminology*, 27(4), 721–746.
- Lai, C. K., Marini, M., Lehr, S. A., Cerruti, C., Shin, J.-E. L., Joy-Gaba, J. A., . . . Nosek, B. A. (2014). Reducing implicit racial preferences: I. A comparative investigation of 17 interventions. *Journal of Experimental Psychology: General*, 143(4), 1765–1785.
- Lai, C. K., Skinner, A. L., Cooley, E., Murrar, S., Brauer, M., Devos, T., . . . Nosek, B. A. (2016). Reducing implicit racial preferences: II. Intervention effectiveness across time. *Journal of Experimental Psychology: General*, 145(8), 1001–1016.
- Lum, C., Koper, C. S., Willis, J. J., Happeny, S., Vovak, H., & Nichols, J. (2016). *The rapid diffusion of license plate readers in U.S. law enforcement agencies: A national survey*. Center for Evidence-Based Crime Policy, George Mason University.
- ManTech Advanced Systems International, Inc. (2012). *A primer on body-worn cameras for law enforcement*. National Institute of Justice. <https://www.justnet.org/pdf/00-Body-Worn-Cameras-508.pdf>
- Miller, L., & Toliver, J. (2014). *Implementing a body-worn camera program: Recommendations and lessons learned*. Office of Community Oriented Policing Services.
- Mummendey, A., & Otten, S. (1998). Positive-negative asymmetry in social discrimination. *European Review of Social Psychology*, 9(1), 107–143.
- Najdowski, C. J., Bottoms, B. L., & Goff, P. A. (2015). Stereotype threat and racial differences in citizens' experiences of police encounters. *Law and Human Behavior*, 39, 463–477.
- Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., . . . Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, 18, 36–88.
- ODS Consulting. (2011). *Body worn video projects in Paisley and Aberdeen, self-evaluation*. <http://www.bwvsg.com/wp-content/uploads/2013/07/BWV-Scottish-Report.pdf>
- Plant, E. A., & Peruche, B. M. (2005). The consequences of race for police officers' responses to criminal suspects. *Psychological Science*, 16(3), 180–183.
- Policing Project at NYU Law. (2019). *Second report of the Axon AI & Policing Technology Ethics Board: Automated license plate readers*. [https://static1.squarespace.com/static/58a33e881b631bc60d4f8b31/t/5dade937f5c1a2b9d698ba9/1571679380452/Axon\\_Ethics\\_Report\\_2\\_v2.pdf](https://static1.squarespace.com/static/58a33e881b631bc60d4f8b31/t/5dade937f5c1a2b9d698ba9/1571679380452/Axon_Ethics_Report_2_v2.pdf)
- President's Task Force on 21st Century Policing. (2015). *Final Report of the President's Task Force on 21st Century Policing*. Office of Community Oriented Policing Services.
- Sadler, M. S., Correll, J., Park, B., & Judd, C. M. (2012). The world is not black and white: Racial bias in the decision to shoot in a multiethnic context. *Journal of Social Issues*, 68(2), 286–313.

- Sim, J. J., Correll, J., & Sadler, M. S. (2013). Understanding police and expert performance: When training attenuates (vs. exacerbates) stereotypic bias in the decision to shoot. *Personality and Social Psychology Bulletin*, *39*, 291–304.
- Smith, E. R., & DeCoster, J. (2000). Dual-process models in social and cognitive psychology: Conceptual integration and links to underlying memory systems. *Personality and Social Psychology Review*, *4*, 108–131.
- Smykla, J. O., Crow, M. S., Crichlow, V. J., & Snyder, J. A. (2016). Police body-worn cameras: Perceptions of law enforcement leadership. *American Journal of Criminal Justice*, *41*, 424–443.
- Steele, C. M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, *52*, 613–629.
- Trawalter, S., Hoffman, K. M., & Waytz, A. (2012). Racial bias in perceptions of others' pain. *PLoS ONE*, *7*(11), Article e48546.
- Trinkner, R., Kerrison, E. M., & Goff, P. A. (2019). The force of fear: Police stereotype threat, self-legitimacy, and support for excessive force. *Law and Human Behavior*, *43*(5), 421–435.
- Tyler, T. R., & Huo, Y. J. (2002). *Trust in the law: Encouraging public cooperation with the police and courts*. Russell Sage Foundation.
- Voigt, R., Camp, N. P., Prabhakaran, V., Hamilton, W. L., Hetey, R. C., Griffiths, C. M., Jurgens, D., Jurafsky, D., & Eberhardt, J. L. (2017). Language from police body camera footage shows racial disparities in officer respect. *Proceedings of the National Academy of Sciences*, *114*(25), 6521–6526.
- Yokum, D., Ravishankar, A., & Coppock, A. (2017). *Evaluating the effects of police body-worn cameras*. The Lab @ DC.