The Psychological Science of Racial Bias and Policing

Jillian K. Swencionis

John Jay College of Criminal Justice

and

Phillip Atiba Goff

John Jay College of Criminal Justice

© American Psychological Association, 2017. This paper is not the copy of record and may not exactly replicate the authoritative document published in the APA journal. Please do not copy or cite without author's permission. The final article is available, upon publication, at: http://content.apa.org/doi/10.1037/law0000130

Please direct correspondence to:

Jillian K. Swencionis

Center for Policing Equity

John Jay College of Criminal Justice

524 West 59th Street

New York, NY 10019

jill@policingequity.org

Abstract

What can the social psychology of racial bias teach us about the potential for racial bias in policing? Because social psychological research is mostly laboratory based and rarely includes police officers, direct generalizability is limited. However, social psychology has identified robust risk factors that make individuals more likely to engage in disparate treatment—even without overt prejudice. This article maps these situational risk factors to common experiences in modern patrol policing. Specifically, we identify the following situations common to patrol policing as risk factors that make bias more likely to result in discrimination: discretion, novice status, crime focus, cognitive demand, and identity threats. Where possible, we also review studies that include officers, and take place in policing-relevant contexts. With the map provided in this article, we exhort psychologists to translate previous laboratory findings to field settings to advance the practice of democratic policing and expand the science of bias.

(149 words)

Introduction

In the two-and-a-half years since Officer Darren Wilson shot and killed Michael Brown, Jr. in Ferguson, Missouri, violent encounters between police and communities have frequently dominated America's news cycle. The fact that so many of these encounters feature officers shooting a Black man—who is often unarmed—has also heightened concerns that race plays a troubling role in policing and in the broader society. For instance, a representative poll of U.S. adults revealed that 60% perceived fatal police encounters with Black Americans to be signs of a broader problem of racism (Morin, Parker, Stepler, & Mercer, 2017). As a result, the public, researchers, and policymakers continue to ask: What is the role of racial bias in policing? This is a question psychological science should be uniquely well suited to address.

Social psychology in particular boasts a voluminous literature on the mechanisms responsible for discrimination (Fiske, Gilbert, & Lindzey, 2010). Of note, the scientific consensus is that, in addition to personological, individual difference factors that dominate lay conceptions of racial discrimination (e.g., trait-based prejudices, authoritarianism, and social dominance orientation), situations play an important role in predicting discriminatory behaviors (Dovidio, 2001; Goff, 2013; Goff, Steele, & Davies, 2008; LaPiere, 1934). Consequently, social psychology conceptualizes of discrimination (as it does for nearly all behavior, see Epstein & O'Brien, 1985; Mischel, 1968) as a combination of personal risk factors modified by situational ones. In the context of policing, therefore, social psychology should be able to identify the elements of policing that are most likely to produce racially discriminatory outcomes—possibly resulting in the loss of liberty or life.

But it does not. At least, not yet.

Despite a sizable literature and an appropriate framework for diagnosing contexts within policing that are vulnerable to discriminatory behavior, few empirical psychological studies engage police officers or even realistic police-relevant contexts. As a result, questions about the role of racial bias in policing do not have a robust scientific literature from which to find answers. The goal of this article is to build a theoretical bridge between two worlds: the experiences of patrol officers and the psychological science of racial bias. By aligning known predictors of discrimination with the situational risk factors present in modern policing, we hope to outline both a set of risk factors for bias in policing that can be useful to practitioners, and a research agenda for scholars who care about how basic psychological science translates to this vital domain. While personal and situational risk factors are both important, in this article we focus on situations because they suggest especially actionable possibilities for intervention.

A Framework for Understanding Racial Bias in Policing

We organize the article in terms of five experiences common to contemporary policing, each of which corresponds to robust categories of risk factors for discriminatory behavior: discretion, being a novice, crime focus, cognitive demand, and identity threats. Each of these features of modern patrol policing have one or more psychological risk factors associated with them (see Table 1). In each section, we detail the psychological risks most associated with the experience (referring back to previous sections where a psychological risk factor applies to more than one patrol experience). Along the way, the article speaks to gaps and inconsistencies in the psychological research that bear on these domains and are especially critical to questions about police policy and practice.

It is important to note as we explore risk factors for biased behavior in policing, this article does not engage deeply with the character of police, which might be described by various

individual differences. Among the most robust findings in psychology is that biased behavior need not be a reflection of individual character. Additionally, situations present opportunities for reducing the influence of bias on behavior, as opposed to individuals' levels of bias, which are likely more resistant to change. For these reasons, the article is framed in terms of situational risk factors rather than personality types.

We have chosen to focus on the experiences of patrol officers in part because the majority of contact between law enforcement and residents occurs with officers patrolling a "beat." To be sure, non-patrol activities also present risks for engaging in discriminatory behavior. For example biases may skew how/when/whether an officer interviews witnesses, structures a lineup, or interprets evidence. But these are beyond the scope of the present article.

Table 1

Map of Policing Risk Factors to Psychological Routes to Discrimination

		Situational Risk Factors				
		Discretion	**Novice Status**	**Crime Focus**	**Cognitive Demand**	**Identity Threats**
Psychological Routes to Discrimination	SDO	X	X			
	Aversive Racism	X				
	Stereotypicality	X		X	X	
	"Shooter" bias and Black-crime associations	X	X	X	X	
	Bias in nonverbal behaviors				X	X
	Stereotype threat		X			X
	Masculinity Threat					X

Instead, this article focuses on identifying the research on racial bias that has included actual patrol officers as participants and discusses the research most relevant to policing contexts that has been conducted with non-officers, largely in laboratory settings. In most of these cases,

new research is needed to determine how generalizable laboratory research is to actual policing contexts. We begin with the experience of discretion.

Discretion

Police officers have more decision-making latitude about what happens to community members the lower they are in the organizational hierarchy, with officers on patrol duty given a great deal of discretion (Walker & Katz, 2011; Wilson, 1980). Officers on patrol face situations in which there is no one mandated course of action, and so they are free to make decisions throughout an interaction with a civilian, any of which can have substantial impact on the communities they are sworn to protect. At an even more basic level, discretion includes not just decisions within an interaction, but whether an interaction happens in the first place, and with whom. Understanding the role that situational ambiguity plays in officer decision making, much of police training is geared towards helping officers make sense of ambiguous situations (Fielding, 1988; Haberfeld, 2002). Still, there is no training that can prepare officers for the broad array of contexts they will encounter. And this chronic exposure to ambiguity overlaps with the psychological literature on bias, which consistently observes that ambiguity leads to a higher likelihood that of discriminatory behavior. What follows is a review of the literature that identifies ambiguous situations as a robust risk factor for engaging in discriminatory behaviors.

Discretion and Social Dominance Orientation

Situations in which officers can exercise discretion can make disparate outcomes more likely because discretion allows officers' prejudice to influence their decisions (Dovidio, 2001; Kalev, Dobbin, & Kelly, 2006). One form of explicit prejudice that may be more likely to influence decisions in patrol situations when officers may exercise discretion, is Social Dominance Orientation (SDO). SDO measures individuals' support for hierarchies that

discriminate against members of lower social strata (Sidanius & Pratto, 1999). This literature demonstrates that individuals who self-report higher levels of SDO are more likely to engage in discriminatory behavior when given the opportunity. While many forms of explicit prejudice have declined over time, SDO continues to exert an influence on behavior without the expression of this attitude having been diminished by prevailing social norms (as demonstrated by numerous surveys and experiments).

SDO tends to be higher in police officers compared to members of the general public, college students, and public defenders, even controlling for demographic variables (Sidanius, Liu, Shaw, & Pratto, 1994). In this combined laboratory and field study, Sidanius and colleagues recruited Los Angeles Police Department officers, public defenders, students, and members of the general public recruited from jury pools, and showed individuals with higher levels of SDO tended to choose to go into policing (i.e. they have pre-existing higher levels of SDO). Given this evidence of higher SDO in policing and the ability for discretion to permit individual biases to influence behavior, the link between SDO and officer decision-making should be a high priority among researchers.

Discretion and Aversive Racism

Having more discretion, and in particular having multiple possible explanations for one's behavior, increases the likelihood that discrimination will result from a form of bias known as aversive racism. In the literature on aversive racism, individuals explicitly affirm their egalitarian values, but on some level they also hold implicit biases and/or negative affective responses to members of stigmatized groups, a dissonant feeling they find uncomfortable or "aversive" (Dovidio & Gaertner, 2004). Recognizing this contradiction between one's values and actions can pose a threat to a person's self concept, heightening their concern about appearing racist. The

literature on aversive racism is largely laboratory-based, and no studies to the current authors' knowledge have investigated aversive racism in policing. In student and general samples, though, aversive racists are at higher risk of engaging in discriminatory behavior in situations in which the social norms or individuals' accountability for their actions are ambiguous.

Laboratory experiments of aversive racism demonstrate how ambiguous social situations with multiple possible courses of action and alternative explanations for discrimination can present opportunities for aversive racism to translate into discriminatory patterns of behavior. For instance, in one study, White women college students were randomly assigned to hear a call for help from either a Black or a White person (Gaertner, Dovidio, & Johnson, 1982). Some participants were assigned to hear the call for distress while engaging with a group (who were non-responsive to the call for help) while others were alone when they heard the call. Participants who were alone responded equally quickly to Black and White calls for help. However, participants heard the distress call while engaged with a (non-responsive) group were nearly twice as fast to respond to someone who was White and in distress than someone who was Black. Consistent with the aversive racism formulation, when group norms are not strong (i.e., you are in a group that does not respond to calls for help), racial bias emerges.

In fact, this particular combination of low explicit bias and high implicit bias predicts a range of discriminatory behaviors, from interpersonal interactions to selection decisions. For instance, in another study, college undergraduates engaged in either an intra-racial or interracial interaction. During the interaction, participants' explicit attitudes predicted differences in their verbal behavior toward Black versus White interaction partners. On the other hand (Dovidio & Gaertner, 2000; Gaertner & Dovidio, 1986), their implicit attitudes, measured by reaction times to pairings of Black and White faces with positive and negative words, predicted differences in

their nonverbal behavior toward their interaction partner (Dovidio, Kawakami, & Gaertner, 2002). Importantly, the interaction partners rated participants' warmth and friendliness as corresponding more closely to participants' non-verbal behaviors, than to participants' verbal behaviors, producing a mismatch of participants' self-perceptions of friendliness, and their partners' perceptions of their friendliness.

Aversive racism also predicts discrimination in outcomes like hiring and college admission decisions (Dovidio & Gaertner, 2000; Gaertner & Dovidio, 1986). Though a preference may not emerge between highly qualified Black and White applicants, when choosing between middling applicants, aversive racism results in a strong preference for the White applicant versus the Black applicant. Though conducted in the laboratory, these studies serve as proof of concept that aversive racism results in discriminatory behaviors and biased outcomes, especially when accountability for participants' actions is ambiguous – in this case, when choosing between middling applicants, participants could easily attribute their choice of the White applicant to some factor other than applicant race.

Importantly, while no research has directly examined aversive racism in policing, it is reasonable to hypothesize that increased levels of officer discretion may also facilitate biased behavior in line with an aversive racism framework. Similarly, because standards of probable cause and reasonable suspicion—important elements in determining officer behaviors towards community members—are notoriously difficult to specify, increased police/civilian contact with an enforcement mindset may also produce the kind of normative ambiguity that promotes racially disparate treatment. Consequently, it appears that policing is a fertile domain in which to pursue future research in aversive racism, and we encourage researchers to take up the opportunity.

Discretion and Stereotypicality

The degree to which someone looks like the stereotype of one's group may also influence perceptions, decision-making, and behaviors in ambiguous situations. For instance, laboratory research by Kahn and colleagues demonstrated that stereotypicality influences standard metrics of implicit bias (Kahn & Davies, 2011) and are also associated with racial disparities in field settings (Kahn, Goff, Lee, & Motamed, 2016). In a random sample of booking photos, Kahn and colleagues found that, controlling for type of arrest, reported level of resistance, and the presence of drugs and alcohol in a suspect's system, ratings of suspects' phenotypic stereotypicality were negatively associated with severity and likelihood of force for White suspects. That is, the more stereotypically "White" a suspect looked, the less force was used on them even when controlling for other factors. Interestingly there was no relationship between stereotypicality and force for Black suspects in the same sample.

The stereotypicality of a target has also been linked to higher levels of "shooter bias" in computer simulations (Kahn & Davies, 2011), and even an increased likelihood of the death penalty (Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006). Again, this research suggests that further research on the role of suspects' racial stereotypicality in police decisions is both necessary and urgent.

Being a Novice

Police officers receive many different forms of training, beginning before they interact with civilians in an officer capacity. General training tends to focus on the specific kinds of tasks involved in patrol policing, providing the opportunity to practice and develop skills. Separate trainings tend to focus on reducing bias. Even in general trainings, though, mere practice and repetition tend to help officers to complete tasks more accurately, reducing the influence of bias

on their behavior even if bias is not specifically addressed. In general, training is ongoing, practice and expertise are crucial, and in the meantime officers will encounter situations for which they have not have had the opportunity to prepare.

As individual officers gain experience, they are vulnerable to the effects of being a novice. For officers, this may manifest as they acclimate to their patrol responsibilities, to police culture, or to the cultures of the neighborhoods they patrol. Across several domains in psychology, the literature on task expertise concludes that individuals with more practice tend to be more likely to complete tasks accurately (e.g., MacLeod, 1998), and less likely to engage in discrimination (e.g., Kawakami, Dovidio, & van Kamp, 2005; Plant & Peruche, 2005). Researchers have built on this literature, showing various domains in which practice helps to build expertise, and further, how practice on accuracy in weapon identification and shooting decisions may reduce racial biases. In the domain closest to policing, researchers have examined the effects of practice—or training—in the context of laboratory shooting simulations. These tasks are thought to reflect bias that stems from participants' implicit associations of crime-related concepts with Black men, as demonstrated in one study by statistical correlations between student participants' awareness of Black-crime stereotypes, and their racial bias in the decision to "shoot" images of unarmed Black versus White individuals in a first-person shooting task (Correll, Urland, & Ito, 2006).

Novice Status in "Shooting" Situations

Payne and colleagues created one of the first laboratory "shooting" related tasks, observing racial bias in student participants' errors when detecting whether they saw a gun or a tool, and showing empirical support for one reason why shooting decisions tend to be racially biased: people may be more likely to mistake an object for a gun, when primed with images of

Black compared to White men (Payne, 2001; for more detail, see the section on crime focus). Plant, Peruche, and Butz (2005) created a similar task, but during each of 160 experimental trials, gave participants a choice to shoot or not shoot a target person who was accompanied on-screen by either a gun or other object. Over the course of these trials, student participants made racially biased shooting errors at first, for example being more likely to "shoot" unarmed Black targets compared to unarmed White targets. By the second half of the task, these biased errors decreased to non-significant levels. In a controlled experiment, Plant and colleagues gave some participants their race-weapon task, and other participants a control task – one day later, the participants who practiced the control task showed racial bias on the race-weapon task, but the participants who had practiced the race-weapon task did not. This experiment therefore demonstrated the causal role of a training task in reducing the expression of racial bias in shooting errors. Importantly, Plant and Peruche (2005) replicated the effect of practice on diminished racial bias in shooting errors in a sample of 50 police officers.

Correll and colleagues created another variant of this first-person shooter task, showing participants a series of experimental trials each with an image of either a Black man or White man holding a gun or object in different naturalistic settings, and presenting a choice to either "shoot" or "don't shoot" within a short deadline on each trial, as short as 630 milliseconds (Correll, Park, Judd, & Wittenbrink, 2002).[1] Correll and colleagues have shown that both students and officers in laboratory simulation settings show racial bias in shooting errors, erroneously "shooting" unarmed Black targets more frequently than unarmed White targets, and doing so faster, and also choosing "don't shoot" more frequently in response to armed White targets compared to armed Black targets, and also doing so faster. Correll and colleagues also

[1] A meta-analysis supports the robustness of these effects (Mekawi & Bresin, 2015).

brought in police officers and community members to participate in their shooter task, and observed that community members showed racial bias in both their error rates and reaction times, while police officers showed bias only in their reaction times, and not in their error rates (Correll et al., 2007). A subsequent study of undergraduates in the laboratory demonstrated one possible reason why participants with more expertise tend to exhibit higher accuracy: when these undergraduates practiced the shooter task and then returned two days later, their accuracy tended to increase and bias tended to decrease (Correll et al., 2007). However, the accuracy-improving effects of training have also been shown to be diminished when Black-crime stereotypes are relatively more salient, showing how a crime focus can attenuate this beneficial effect of practice (Sim, Correll, & Sadler, 2013).

These studies begin to reveal how practice and expertise can reduce racial bias in the decision to shoot, among students, community members, and officers—at least in simulated laboratory settings. Further research is needed to address the role of training, practice, and expertise in officers' actual decisions, or at the very least, in settings that more closely approximate actual police work. These questions may become more relevant in regard to modern policing settings where novice officers have contact with civilians in higher-crime areas, where reducing crime is especially salient—and thus crime-related stereotypes may be especially accessible. These decisions, too, are likely to be impacted by high levels of officer discretion, in which more officer decisions may be subject to bias (and may be improved by more practice). Importantly, the "shooter" simulations described in this section all institute short response deadlines, which create time pressure that is relevant to real-life situations in which a person may be armed. In contrast, some studies that have attempted to determine the role of racial bias in officer decisions to shoot have allowed participants unlimited time in which to make their

decision – a feature that makes these decisions less similar (and perhaps less relevant) to potentially dangerous interactions in real life, and allows participants unlimited time in which they may correct for the effects of bias on their decisions (e.g., James, Vila, & Daratha, 2013). Further research will need to take notice of this critical aspect of officer decision-making. The next section discusses time pressure in more detail, as one example of a situational determinant that makes discrimination more likely.

Novice Status and Explicit Prejudice

Returning to a form of explicit prejudice described earlier in the section on discretion, SDO is also related to officers' levels of experience, in that more experience actually predicts higher levels of this explicit form of prejudice. In addition to the selection effect described earlier, in which officers have higher levels of SDO than members of the general population, an earlier, longitudinal study of officers over the course of an 18-month training found that SDO additionally increases the longer an officer serves on the force (Teahan, 1975). This study suggests that SDO, which broadly predicts greater levels of racially discriminatory behavior (Sidanius & Pratto, 1999), is both more common in police recruits and increases further with time on the force. While existing findings do not provide sufficient grounds for making stronger claims, these findings provide sufficient reason to call for additional research in this area.

Crime Focus

Policing has always emphasized officers' role in controlling crime, even at the expense of other important goals such as protecting the public safety, providing service to the public, having positive interactions with citizens, or being accurate. In contemporary contexts, crime focus might include assigning more officers to patrol higher-crime neighborhoods in pursuit of a crime deterrent effect. Modern incentive structures reinforce the focus on crime control, often

rewarding arrests and citations but often not helpfulness or accuracy. This chronic focus on crime control can also act as a risk factor for discrimination because it heightens the accessibility of pervasive stereotypes associating Black people (in general) and Black men (in particular) with crime-related concepts (Eberhardt, Goff, Purdie, & Davies, 2004). We have already seen that novice status tends to increase the effects of some of these Black-crime stereotypes, and next we will review how crime focus can act as its own risk factor.

Showing effects of crime focus on stereotype-based mis-identification of suspects by real officers, Eberhardt and colleagues (2004) recruited police officers to participate in a study where participants were presented with a picture of a potential suspect. The suspect was either Black or White. Immediately before seeing the suspect, participants were either subliminally primed with words associated with crime (e.g., crime, investigate, arrest, apprehend) or nonsense letter strings. After officers saw the suspect, they were given a surprise memory task that involved picking the original suspect out of a lineup of other suspects of the same race. Each of the five faces in each lineup were pretested so that they could be arrayed in a scale from most to least phenotypically stereotypical for their racial group. The target face was the mid-point of that stereotypicality scale (with two more stereotypical faces and two less stereotypical faces also displayed). Results revealed that officers who had been primed with crime-related words were no more or less accurate than those who had not. However, when they misremembered (which was the majority of the time) they made more stereotypical errors for Black suspects when primed with crime than when unprimed. Likewise, they made less stereotypical errors for White suspects when primed with crime than when unprimed.

Eberhardt and colleagues (2004) specifically manipulated crime focus, which influenced the extent to which racial stereotypes influenced their [mis-]identification behavior. In situations

like this, discretion (discussed above) and cognitive demand (discussed below) are also relevant risk factors. In particular, this finding recalls the effects of discretion on the risk of making errors due to a person's stereotypicality (Kahn & Davies, 2011; Kahn et al., 2016), errors that can additionally be amplified by a situational focus on crime.

As another prominent example of racial stereotypes strengthened by a focus on crime, Payne and colleagues have developed a program of research showing a bias toward identifying guns (compared to non-gun objects) following brief exposure to Black faces compared to White faces (Bishara & Payne, 2009; Govorun & Payne, 2006; Payne, 2001, 2005, 2006; Payne, Lambert, & Jacoby, 2002; Payne, Shimizu, & Jacoby, 2005). In particular, this research has shown that participants are more likely to mistakenly identify non-gun objects as guns when the objects are paired with images of Black men's faces, compared to when they are paired with images of White men's faces. In these experiments, participants receive instructions to identify each object that appears on a computer screen as either a gun or a tool—while ignoring images of faces.

In addition to the roles of novice status and crime focus as risk factors that increase the influence of Black-crime stereotypes, these stereotypes also pose an especially high risk in situations in which officers have to make decisions very quickly, and/or in which there are multiple demands on their cognitive capacity—both also common features of modern patrol policing. We discuss these risk factors next.

Cognitive Demand

One reason modern patrol policing is such a challenging job is that officers experience sometimes-life-threatening situations in which they must make a decision very quickly, or in which there are many simultaneous demands on their attention. Psychological models of human

attention tend to show that people have limited capacity for processing information simultaneously (e.g., Broadbent, 1958; Navon & Gopher, 1979; Pashler, 1994), and there is no reason to believe policing would be an exception. The literature on cognitive demand and racial bias holds that when the demands of a situation exceed the processing resources available, the processing resources that are typically devoted to controlling the expression of racial bias are otherwise occupied, and are more likely to fail. As noted in the section on crime focus, especially in reference to Black-crime stereotypes, several risk factors may simultaneously make discrimination more likely: for example, discretion, crime focus, and cognitive demand may have an additive effect in making errors based on stereotypicality more likely (e.g., Eberhardt et al., 2004; Kahn & Davies, 2011; Kahn et al., 2016). Specifically, the role of cognitive demand as a risk factor is that it prompts a reliance on cognitive shortcuts, such as stereotypes.

More precisely, a limited capacity for executive function means that people draw on the same resources for all operations that require this set of cognitive processes—including controlling one's expression of bias, inhibiting other undesired actions, directing one's attention and avoiding distraction, planning, choosing, reasoning, and holding things in working memory—each of which is more prone to error when the available resources are relatively scarce (e.g., Macrae, Bodenhausen, Milne, & Jetten, 1994; Miller, 2000; Robinson, Schmeichel, & Inzlicht, 2010). This can happen when cognitive load is relatively high, for example when a person is engaged in an especially difficult or taxing task while facing a simultaneous distraction that divides one's attention. It can also occur when available cognitive resources are relatively low, such as when time pressure necessitates the same amount of information processing, despite less time to process the information. In these relatively demanding situations, people are more

likely to rely on simplifying assumptions such as stereotyping (e.g., Macrae, Milne, & Bodenhausen, 1994), which, again, heightens the risk of biased behavior.

Time Pressure and Black-Crime Associations

We have already seen that novice status and crime focus both amplify the effects of Black-crime associations, and next we will review how cognitively demanding situations can also act as risk factors. Black-crime associations are especially likely to result in discrimination in situations in which officers have to make decisions very quickly, a common situation encountered in modern patrol policing. Taking a closer look at relative cognitive resources as a situational risk factor for racially biased behavior, resource depletion is associated with increased reliance on stereotypes (Bodenhausen, 1990; Govorun & Payne, 2006; Macrae, Milne, et al., 1994; Pendry & Macrae, 1996). As just one example, the Implicit Association Test (IAT)—one relatively early standard for measuring implicit attitudes—was built on the premise of having limited time to respond, and on the premise of having to respond to more-versus-less cognitively demanding blocks of trials (e.g., trials with bias-inconsistent associative pairings, versus trials with bias-consistent pairings; Greenwald, Mcghee, & Schwartz, 1998).

As one example of time pressure as a risk factor for Black-crime associations resulting in discrimination, a program of research by Payne and colleagues, described in detail in the preceding section on crime focus, shows a bias toward perceiving weapons following Black face primes especially when participants are given a short amount of time to respond. When participants are given unlimited time to complete this task, they tend to correctly identify the guns and tools, regardless of whether the objects appear in the presence of a Black or White man's face. Participants do typically identify guns faster when they accompany Black versus White men's faces, suggesting that even with unlimited time, seeing Black men's faces tends to

prime participants to perceive guns more quickly – however, time pressure intensifies these effects.

When given a short response deadline, participants are significantly more likely to mistake a tool for a gun when paired with a Black versus White man's face. In other words, when faced with a split-second decision, race influenced participants' tendency to perceive a gun that was not actually there (Payne, 2001, 2006). This evidence is reinforced by research that controls for image brightness and contrast using desaturated images that have been equalized for these properties, or by using line-drawing images (e.g., Eberhardt et al., 2004). While one set of explanations suggests people learn Black-crime associations from base rates of criminality in their social surroundings, given that people tend to hold these associations even as they pertain to Black children (Goff, Jackson, Di Leone, Culotta, & DiTomasso, 2014), base rates cannot fully explain this set of findings. Taken together, this research shows time pressure tends to increase the risk of anti-Black bias related to perceiving even non-existent weapons.

While these laboratory simulations are loose approximations of actual police work (often including pressing keyboard buttons on a computer rather than pulling a trigger to simulate shooting), some of these studies do suggest a stronger link to actual police behavior. A series of studies in field settings with police reveal patterns of racial disparities in behavior, including Eberhardt and colleagues' (2004) study on suspect identification described above in the section on crime focus. In addition to demonstrating an effect of cognitively demanding situations, this particular example also shows one way in which crime focus and discretion simultaneously act as risk factors for stereotype-based errors.

Divided Attention in Interracial Interactions

In addition to time pressure, other situational factors can place demands on individuals' cognitive capacity for controlling prejudiced behavior, including interracial interactions themselves. If the stress of an interracial officer-civilian interaction were itself a risk factor for discrimination, that would be important to know – and research in laboratory settings indicates this is likely, though the research has not yet been conducted with officers. Recalling the effects of aversive racism from the section on discretion, interracial interactions can themselves sometimes result in adverse outcomes despite egalitarian intentions.

As shown in research by Shelton, Trawalter, and Richeson and their colleagues, one cause of depleted cognitive resources is the stress of interracial interactions (Richeson, Trawalter, & Shelton, 2005; Salvatore & Shelton, 2007; Shelton, Richeson, Salvatore, & Trawalter, 2005; Trawalter & Richeson, 2006). Interracial interactions can be stressful to non-White group members due to concerns about being the target of prejudice (Shelton et al., 2005) or about not being respected (Bergsieker, Shelton, & Richeson, 2010) while majority group members may be concerned about being perceived as racist, or about not being liked (Bergsieker et al., 2010)—all of which are experiences that tend to deplete available cognitive resources. In a paradigmatic example of these laboratory experiments involving actual face to face interactions, White participants perform worse on a subsequent measure of cognitive control after a conversation with a Black experimenter, compared to White participants who interacted with a White experimenter (Richeson et al., 2005). The greater their individual levels of implicit bias as measured by an IAT, the worse participants subsequently performed on the cognitive control task after an interracial (but not same race) interaction. Therefore, intergroup contact, thought to be a protective factor under conditions of equal status and shared goals (e.g., Pettigrew & Tropp,

2006), can itself act as a risk factor in the short and medium term in its asymmetrical and fraught tendencies.

Identity Salience and Identity Threats

With public perceptions that racial disparities in policing reflect a broader problem of racial bias, it may not be surprising that a recent Pew study found fully 86% of officers believe that high-profile incidents of anti-Black violence have made their jobs harder (Morin et al., 2017). Similarly, 68% of officers in the same study believed protests following fatal shootings were motivated by anti-police bias. Whether or not officers' jobs have become harder due to factors like decreased civilian compliance, officers' subjective experience of being seen as prejudiced can also influence their cognition and behavior. What are officers' day-to-day experiences of their social identities as police officers, and what are the consequences? The psychological literature on identity salience and threat does not yet include a robust literature on law enforcement officers, but some studies in these areas suggest ways that identity could matter in policing contexts.

Identity Salience

Research on identity salience is part of a larger literature on Social Identity and Self-Categorization Theories, in which individuals' sense of identity ranges from one's own personal identity, to their sense of belongingness in different social groups, known as collective identities (e.g., race, ethnicity, gender, religious group, nationality). These collective identities create the context for intergroup relations. When a group identity becomes salient, individuals tend to be more likely to focus on their group's needs and goals, rather than their own individual needs and goals (Tajfel, Billig, Bundy, & Flament, 1971; Tajfel & Turner, 1979; Turner, Oakes, Haslam, & McGarty, 1994). While research has not examined the effects of different and overlapping

collective identities in police officers, identification with law enforcement is often an important aspect of an officer's life (Bahn, 1984; Loftus, 2010; Rubin, 1972). This suggests that the psychological role of identity may be similar to other important identities studied in other laboratory and field settings.

The dynamic nature of social identities means that social situations can threaten the self concept by making a particular group membership salient. Occasionally, this dynamic property of social identities can be harnessed, resulting in less negative outcomes. For instance, Dovidio, Gaertner and colleagues have found that asking participants to think of themselves at broader levels of collective identity, thereby creating a "common ingroup identity," can effectively shift the inclusiveness of the ingroup, and therefore reduce intergroup bias (Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1994). As one example, students who were prompted to consider themselves as students in general, rather than as students of their particular, French-speaking university, were less likely to discriminate against students from a non-French speaking university (Yzerbyt, Dumont, Wigboldus, & Gordijn, 2003). In this and other experiments built on the common ingroup identity model, individuals' motivation shifts toward the benefit of the currently salient, broader collective group. This idea may be one reason for the intuitive appeal of community-oriented policing programs: if officers identify more strongly with the broader community, an "us-versus-them" mentality may shift toward a collective "we" mentality, aligning officers' and community members' goals and outcomes.

Identity Threats

An identity threat refers to a social stimulus that causes an individual to feel concern that their value as, status of, or membership in an important social category may be reduced. For instance, an honors student being laughed at by a teacher may feel their identity as "smart" is

threatened in that situation. Here, we discuss two forms of identity threat that may be especially applicable to policing: stereotype threat and masculinity threat. Stereotype threat is a concern with being evaluated in terms of or confirming a negative stereotype about one's group (Steele & Aronson, 1995). That concern often leads to negative performance in contexts where an individual faces a challenging task. Masculinity threat describes a tendency for some men to reassert their masculine self concept in the face of real or imagined challenges to one's standing as positively masculine (Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008).

Stereotype threat. The threat of confirming a negative stereotype about a group one belongs to, for example non-White and low-SES students' concern about confirming stereotypes about these groups' poor academic performance, actually tends to *cause* long-lasting detriments to performance in academics, athletics, the dynamics of interpersonal interactions, and a wide range of other identity-relevant domains, in both laboratory and field settings (see, e.g., Steele, 1997; Steele & Aronson, 1995).

In the first and most widely-replicated field experiment investigating stereotype threat, high-performing college students were given a set of difficult standardized test questions, and were instructed the test was either not diagnostic of their academic ability; or that the test *was* diagnostic of their academic ability. The "diagnostic" condition presented an identity threat to Black students: specifically, making salient the possibility that they might perform badly on this alleged test of their academic ability, thereby confirming negative stereotypes about Black students' academic ability. While no group differences were observed in the control condition, in the threat condition, Black students solved significantly fewer problems correctly than White students—with these results adjusted for any differences in SAT scores.

Stereotype threat extends to many other domains—as just one example, in cross-race interactions, Whites' concern about appearing racist causes more negative intergroup interactions (Goff et al., 2008), with another study showing the resulting discomfort tends to decrease interest in interracial interactions over time (Pearson et al., 2008). Studies of stereotype threat in real life settings observe detriments to performance in many different domains—anywhere a person's identity can be threatened, for example, where an identity is underrepresented—including low-SES students' academic performance (Croizet & Claire, 1998); women's performance on math tests (Spencer, Steele, & Quinn, 1999), an effect which has been shown separately to be even stronger for women who strongly identify with their gender (Schmader, 2002); White men's math performance when taking a test alongside members of a stereotypically higher-performing group (Aronson et al., 1999); White men's athletic ability, and Black men's "sports intelligence" (Stone, Lynch, Sjomeling, & Darley, 1999). Laboratory experiments also show strong evidence for how and why identity threats tend to hamper performance: the threat of confirming a negative group stereotype tends to raise blood pressure (Blascovich, Spencer, Quinn, & Steele, 2001) and tends to occupy the same short-term memory capacity that is needed to perform the academic tasks in question (Schmader & Johns, 2003; Schmader, Johns, & Forbes, 2008).

In the published literature, stereotype threat has not been tested in policing settings. However, in contexts where racial tensions between police and communities are high, it is reasonable to hypothesize concerns with appearing prejudiced may influence officer interpersonal performance. If this leads to more interpersonal disfluency, as it has in previous laboratory settings (Goff et al., 2008; Richeson & Shelton, 2003), this concern should motivate further research translating stereotype threat to the field of policing.

Masculinity threat. In the domain of gender, a person's identity as a man is also subject to threat. Broadly, men are more likely to affirm their own masculinity after it has been threatened, in ways ranging from prejudice to discrimination and sometimes aggression. For example, a study of male college students showed that when threatened by receiving bogus personality test feedback indicating they themselves had feminine (vs. masculine) qualities, they exhibited heightened negative feelings toward effeminate-seeming (but not masculine-seeming) gay men on average (Glick, Gangl, Gibb, Klumpner, & Weinberg, 2007).

Threats to a person's racial and gender identities are not mutually exclusive, as shown by two experiments in which experiencing racial discrimination tends to heighten the effects of masculinity threat for Black men, but not for White men (Goff, Di Leone, & Kahn, 2012). In these experiments, Black male college students affirmed male gender norms more strongly, and completed more pushups, thought to reflect an expression of dominance, compared to White male college students, after an episode of racial discrimination. The second study showed one reason White men may not have experienced the need to re-affirm their masculinity as strongly: they tended to compensate by reaffirming their relatively higher social status. From these experiments, we can see that identity threats can result in dominant physical behaviors, showing how such threats affect behavioral outcomes and performance, in addition to individual measures of prejudiced attitudes.

Identity Salience and Stereotype Threat. The salience of one's different group identities can also shift the effects of stereotype threat, when one's different group memberships are linked to different group stereotypes. Shih, Pittinsky, and Ambady (1999) conducted a laboratory study in which undergraduate Asian-American women completed a difficult math test. Based on cultural stereotypes in the United States of women's low quantitative ability and Asian

Americans' high quantitative ability, the researchers predicted that highlighting these students' female identity would threaten their performance, while highlighting their Asian American identity would boost their performance. Indeed, participants whose female identity was salient performed significantly worse than participants in the control condition, and participants whose Asian American identity was salient performed significantly better than participants in the control condition. The researchers also ran this study in Vancouver, BC, where stereotypes of Asian Americans do not include superior quantitative ability, and found that Asian American identity salience in a culture lacking this stereotype did not predict a boost in performance. In other words, these effects are linked to stereotypes, and not the actual identities associated with those stereotypes.

Future Directions and Potential Implications

In this section, we suggest next directions in research that follow from open questions in the literature we have described. In almost all cases, we call for research on the phenomena identified in the psychological literature, applied to the specific kinds of situations and contexts in modern patrol policing we have identified as likely risk factors. Rigorous field research on these risk factors should be done before any attempt to intervene at scale, and yet field research on sensitive issues is challenging in contexts where practitioners may reasonably doubt researchers' intentions or efficacy. A comprehensive guide on how to partner with police agencies on research is beyond the scope of the current article, but in broad terms, researchers and practitioners have many goals in common, and we consider it helpful to maintain a research focus on actionable findings that help police do an even better job of protecting public safety. In the short sections that follow, we present examples of research that would be especially helpful in policing contexts, within the categories of risk factors we have identified.

Future Research on Discretion and Bias in Policing

Little psychological research has directly examined the role of discretion on police behavior. Still, laboratory and some field studies on SDO, aversive racism, and stereotypicality provide a basis for believing that high levels of discretion in patrol officers leaves them vulnerable to disparate treatment of residents based on their race. While there may be trainings and policies that attenuate that risk, primary research on this topic is warranted.

Anecdotal evidence from the Austin Police Department (APD) is also consistent with this perspective. In a recent report by the Center for Policing Equity in collaboration with the Urban Institute and the White House Police Data Initiative, an analysis of APD's vehicle stops revealed an unusually high "hit rate" following traffic stops (Goff, Lloyd, Geller, Raphael, & Glaser, 2016). A "hit rate" is the percentage of investigatory stops that returned illegal contraband, and is often used as a measure of police efficiency (Knowles, Persico, & Todd, 2001). While no comparative analyses were run, and no direct tests were conducted, the Chief of APD at the time attributed the relatively high rate (compared to other published hit rates) to having restricted the discretion of his officers to stop or inspect motor vehicles (Goff et al., 2016). Analyses of departments that feature these types of restrictions on officer behavior could provide natural experiments for scholars investigating the role of discretion across mechanisms for bias.

Future Research on Novice Status and Training in Officers

When has there been enough training, "practice," or expertise developed to trust someone with the power to take away someone's life or liberty—and to do so equitably? At a time when departments nationwide are implementing training programs with the explicit intention of reducing the effects of racial bias, research is needed to understand what forms of experience and training may improve outcomes. As we have seen, experience sometimes improves outcomes,

and sometimes may not. Though more experience may help officers make more accurate, less biased shooting decisions in laboratory simulations, longer time on the force also appears to increase levels of explicit prejudice. There are many possible explanations for these different kinds of effects, and more research is needed to understand the domains in which experience and training influence racial disparities in different ways. Factors such as relative staffing shortages may also influence the average experience levels of different departments, and these factors should also be explored.

Although it might appear otherwise from the rapid deployment of anti-bias training programs, little yet is known about the various possible effects of different forms of trainings. This set of research questions is especially time-sensitive due to recent calls by policymakers for anti-bias trainings, especially focusing on implicit bias. The authors of this article firmly support the rigorous design and testing of such trainings. In policy documents ranging from the President's Task Force on 21st-Century Policing (*Final Report of the President's Task Force on 21st Century Policing*, 2015) to the recently issued U.S. Department of Justice findings in Baltimore (*Investigation of the Baltimore City Police Department*, 2016), police departments are being urged to implement implicit bias training.

Several training protocols have emerged in response to demand, but these programs have not yet been assessed for their ability to produce a change in behavior—even by measuring behavior before and after training in a single location—much less by comparing the effects of randomly assigned different trainings. Given the political urgency and lack of scientific grounding, it is particularly important that research on training take place. Similarly, it is important to discern between trainings and mere information sessions because there is little evidence to suggest that a raising of consciousness about the existence of implicit bias will

produce significant changes in discriminatory behavior (Glaser, Goff, & Charbonneau, in press). Still, the distinction is rarely made in the emerging police training field, providing yet another opportunity for researchers to add professional clarity and advance the scientific literature.

Similarly, departments that require longer periods of community exposure before allowing officers to patrol on their own may provide opportunities for fruitful research. For instance, the New Haven Police Department requires officers to walk their assigned beat for a year before fully certifying them as officers (Buffa, 2013). Other departments mint officers after relatively brief stints in a training academy and even briefer field training assignments. Understanding the optimal length of these kinds of exposure protocols is an important question for both practitioners and scientists.

Future Research on Crime Focus in Policing Contexts

Research on training protocols would be most fruitfully conducted in tandem with research on crime focus and its associated racial stereotypes. While it is unlikely to discover a police department that does not encourage their officers to focus on crime reduction, there is wide variation in the degree to which officers are incentivized to have additional professional obligations. Specifically, the distribution of so-called "Community Policing" programs is particularly relevant. Though many bemoan that the term community policing is used to describe such diverse—and even contradictory programs (Greene & Mastrofski, 1988), department policies that promote engaging communities in positive and relationship-building contacts (as opposed to promoting crime deterrence) provide great opportunities to measure the influence of non-crime-focused intentions. For instance, requiring officers to meet a quota of positive contacts, rewarding officers who build community equity, and providing officers with opportunities to engage communities in recreational contexts may blunt some of the negative

consequences of a chronic crime-focused orientation. Each of these policies varies by departments (Cordner, 2014; Skogan & Hartnett, 1997), offering a natural opportunity to study their effects. A carefully designed study would both advance the science surrounding how mindsets influence stereotype application and help to address long-simmering debates about the influence of community policing on racial disparities in policing (Eck & Rosenbaum, 1994; Greene & Mastrofski, 1988).

Future Research on Cognitive Demand in Policing Contexts

Currently, though there is some work on time pressure and "shooting" decisions, there is no direct test of the role that divided attention, cognitive depletion, or interracial interactions have on officer-level racial biases. However, if particular policing policies or strategies increase the volume of police/citizen contacts, it is reasonable to wonder about the increased cognitive demand officers may incur as a result. In the other direction, it is also reasonable to wonder about whether training and expertise may attenuate the potentially biasing effects of time pressure and divided attention, and, again, what kinds of training may be more or less helpful. Further research is needed to translate the robust laboratory findings on cognitive demand, including time pressure and divided attention, into actual police patrol contexts.

Future Research on Police Officer Identities

Despite strong theoretical predictions and results from laboratory and field settings in a number of domains, to our knowledge there have not yet been studies of stereotype threat, masculinity threat, or identity salience as risk factors among police officers. Based on a long history of research on social identities and the motivational and cognitive consequences of identity salience and threats, we would suggest that future research address the possibility that different levels of identity might predict different consequences, especially in officer-civilian

interactions. In particular, threats to different aspects of an officer's identity, for example threats to their social status, racial or gender identity, or to their sense of identity as a police officer, may put their performance at risk in the domain of keeping people safe. There is far too little research on the effects of police officers' identities, and the resulting dynamics for interactions with civilians. For example, in interactions with people with different racial or gender identities, an officer's own racial or gender identity may become more or less salient, influencing the course of the interaction. An officer's collective identity with other police officers is likely relevant to other interpersonal outcomes. For example, when considering situations in which officers have more contact with people who may hold stereotypes of officers as being racist, and in which officers have increased discretion in managing that contact, the potential consequences of identity threats merit further investigation.

Conclusion: A Call for Continued Research

What can the psychological science of bias tell us about racial disparities in policing? At present, it is too early to know for certain. But in advance of achieving that certainty, the science does leave clues about where scientists can look to find evidence. In the preceding sections, we have attempted to map some of the most common experiences in contemporary policing to the robust risk factors for bias in the research literature in psychology. Again, these risk factors do not reflect on the character of individual officers. Rather, most reveal features of situations that make it more likely for any individual to engage in biased behaviors.

For the science of bias to speak compellingly to the realities of bias, more research must leave the laboratory and engage the world of policing. This research should be done carefully and in collaborative partnership with agencies that stand to benefit from its findings. Despite the fact that modern policing features a high degree of discretion, has to recruit novices, encourages

a chronic crime focus, exerts sizable cognitive demands, and promotes a strongly held identity, police departments vary widely in the cultures and policies that govern these experiences. As a result, policing is an ideal field laboratory for enterprising scientists convicted of the need to translate theory to experience.

While the present article may not present an exhaustive list of the experiences common to police patrols that may promote bias, these are among the experiences that most strongly align with robust risk factors in the psychological literature. A more exhaustive review would be welcome, but would also likely require more empirical evidence. Similarly, the present article does not articulate stages of police contact at which each experience might be most likely to influence officer behaviors (see Richardson & Goff, 2012, for a review).

What the present article has done is to demonstrate that, despite the lack of social psychological research on racial bias in policing, there is ample reason to suspect that social psychological factors play a role in policing outcomes. Moreover, there is great variability in the ways that departments regulate the experiences that endanger the fairness of officer behaviors. This natural variation is a topic worthy of study in and of itself, and a feature of the law enforcement landscape ripe for inquiry by social scientists. In the end, this is the strongest conclusion of the present review: That racial bias in policing is in dire need of increased scientific attention. Both practitioners and scholars have a great deal to gain from filling the gaps identified above—as do the uniformed officers sworn to keep us safe and the communities who most need to be able to rely on them.

References

Aronson, J., Lustina, M. J., Good, C., Keough, K., Steele, C. M., & Brown, J. (1999). When White Men Can't Do Math: Necessary and Sufficient Factors in Stereotype Threat. *Journal of Experimental Social Psychology*, *35*(1), 29–46. http://doi.org/10.1006/jesp.1998.1371

Bahn, C. (1984). Police socialization in the eighties: Strains in the forging of an occupational identity. *Journal of Police Science & Administration*, *12*(4), 390–394.

Bergsieker, H. B., Shelton, J. N., & Richeson, J. A. (2010). To be liked versus respected: Divergent goals in interracial interactions. *Journal of Personality and Social Psychology*, *99*(2), 248–64. http://doi.org/10.1037/a0018474

Bishara, A. J., & Payne, B. K. (2009). Multinomial process tree models of control and automaticity in weapon misidentification. *Journal of Experimental Social Psychology*, *45*(3), 524–534. http://doi.org/10.1016/j.jesp.2008.11.002

Blascovich, J., Spencer, S. J., Quinn, D., & Steele, C. (2001). African Americans and high blood pressure: the role of stereotype threat. *Psychological Science*, *12*(3), 225–229. http://doi.org/10.1111/1467-9280.00340

Bodenhausen, G. V. (1990). Stereotypes as judgmental heuristics: Evidence of circadian variations in discrimination. *Psychological Science*, *1*(5), 319–322. http://doi.org/10.1111/j.1467-9280.1990.tb00226.x

Broadbent, D. E. (1958). The effects of noise on behaviour. In *Perception and communication* (pp. 81–107). Elmsford, NY: Pergamon Press.

Buffa, D. (2013, July 7). On New Haven Streets, A Return To Community Policing. *The Hartford Courant*. New Haven, CT. Retrieved from http://articles.courant.com/2013-07-07/news/hc-new-haven-community-policing-20130707_1_esserman-non-fatal-shootings-

community-policing

Cordner, G. (2014). Community policing. In M. D. Reisig & R. J. Kane (Eds.), *The Oxford handbook of police and policing* (pp. 148–171). New York, NY: Oxford University Press.

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*(6), 1314–1329. http://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. http://doi.org/10.1037/0022-3514.92.6.1006

Correll, J., Urland, G. R., & Ito, T. A. (2006). Event-related potentials and the decision to shoot: The role of threat perception and cognitive control. *Journal of Experimental Social Psychology*, *42*(1), 120–128. http://doi.org/10.1016/j.jesp.2005.02.006

Croizet, J.-C., & Claire, T. (1998). Extending the concept of stereotype threat to social class: The intellectual underperformance of students from low socioeconomic backgrounds. *Personality & Social Psychology Bulletin*, *24*(6), 588–594.

Dovidio, J. F. (2001). On the nature of contemporary prejudice: The third wave. *Journal of Social Issues*, *57*(4), 829–849. http://doi.org/10.1111/0022-4537.00244

Dovidio, J. F., & Gaertner, S. L. (2000). Aversive Racism and Selection Decisions: 1989 and 1999. *Psychological Science*, *11*(4), 315–319.

Dovidio, J. F., & Gaertner, S. L. (2004). Aversive Racism. *Advances in Experimental Social Psychology*, *36*, 1–52.

Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2002). Implicit and Explicit Prejudice and

Interracial Interaction. *Journal of Personality & Social Psychology*, *82*(1), 62–68. http://doi.org/10.1037//0022-3514.82.1.62

Eberhardt, J. L., Davies, P. G., Purdie-Vaughns, V. J., & Johnson, S. L. (2006). Looking deathworthy: perceived stereotypicality of Black defendants predicts capital-sentencing outcomes. *Psychological Science*, *17*(5), 383–6. http://doi.org/10.1111/j.1467-9280.2006.01716.x

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*(6), 876–893. http://doi.org/10.1037/0022-3514.87.6.876

Eck, J. E., & Rosenbaum, D. P. (1994). The new police order: Effectiveness, equity, and efficiency in community policing. In D. P. Rosenbaum (Ed.), *The challenge of community policing: Testing the promises* (pp. 3–23). Thousand Oaks, CA: Sage.

Epstein, S., & O'Brien, E. J. (1985). The person-situation debate in historical and current perspective. *Psychological Bulletin*, *98*(3), 513–537.

Fielding, N. (1988). *Joining forces: Police training, socialization, and occupational competence*. London: Routledge.

Final Report of the President's Task Force on 21st Century Policing. (2015). Washington DC. Retrieved from https://cops.usdoj.gov/pdf/taskforce/taskforce_finalreport.pdf

Fiske, S. T., Gilbert, D. T., & Lindzey, G. (Eds.). (2010). *Handbook of Social Psychology* (5th ed.). Hoboken, NJ: John Wiley & Sons.

Gaertner, S. L., & Dovidio, J. F. (1986). *The Aversive Form of Racism*. Cambridge, MA: Academic Press.

Gaertner, S. L., Dovidio, J. F., & Johnson, G. (1982). Race of Victim, Nonresponsive

Bystanders, and Helping Behavior. *Journal of Social Psychology*, *117*(1), 69–77. http://doi.org/10.1080/00224545.1982.9713409

Gaertner, S. L., Rust, M. C., Dovidio, J. F., Bachman, B. A., & Anastasio, P. A. (1994). The contact hypothesis: The role of a common ingroup identity on reducing intergroup bias. *Small Group Research*, *25*(2), 224–249.

Glaser, J., Goff, P. A., & Charbonneau, A. K. (n.d.). Reducing the Impact of Implicit Bias on Policing. *Scientific American*.

Glick, P., Gangl, C., Gibb, S., Klumpner, S., & Weinberg, E. (2007). Defensive Reactions to Masculinity Threat : More Negative Affect Toward Effeminate (but not Masculine) Gay Men. *Sex Roles*, *57*, 55–59. http://doi.org/10.1007/s11199-007-9195-3

Goff, P. A. (2013). A measure of justice: What policing racial bias research reveals. In F. C. Harris & R. C. Lieberman (Eds.), *Beyond Discrimination: Racial inequality in a postracist era* (pp. 157–185). New York, NY: Russell Sage.

Goff, P. A., Di Leone, B. A. L., & Kahn, K. B. (2012). Racism leads to pushups: How racial discrimination threatens subordinate men's masculinity. *Journal of Experimental Social Psychology*, *48*(5), 1111–1116. http://doi.org/10.1016/j.jesp.2012.03.015

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), 526–45. http://doi.org/10.1037/a0035663

Goff, P. A., Lloyd, T., Geller, A., Raphael, S., & Glaser, J. (2016). *The science of justice: Race, arrests, and police use of force*. *Center for Policing Equity*. Retrieved from http://policingequity.org/wp-content/uploads/2016/07/CPE_SoJ_Race-Arrests-UoF_2016-07-08-1130.pdf

Goff, P. A., Steele, C. M., & Davies, P. G. (2008). The space between us: stereotype threat and distance in interracial contexts. *Journal of Personality and Social Psychology*, *94*(1), 91–107. http://doi.org/10.1037/0022-3514.94.1.91

Govorun, O., & Payne, B. K. (2006). Ego-Depletion and Prejudice: Separating Automatic and Controlled Components. *Social Cognition*, *24*(2), 111–136. http://doi.org/10.1521/soco.2006.24.2.111

Greene, J. R., & Mastrofski, S. D. (Eds.). (1988). *Community policing: Rhetoric or reality*. New York, NY: Praeger.

Greenwald, A. G., Mcghee, D. E., & Schwartz, J. L. K. (1998). Measuring Individual Differences in Implicit Cognition: The Implicit Association Test. *Journal of Personality & Social Psychology*, *74*(6), 1464–1480.

Haberfeld, M. R. (2002). *Critical issues in police training*. Upper Saddle River, NJ: Prentice Hall.

Investigation of the Baltimore City Police Department. (2016). Washington DC. Retrieved from https://www.justice.gov/opa/file/883366/download

James, L., Vila, B., & Daratha, K. (2013). Results from experimental trials testing participant responses to White, Hispanic and Black suspects in high-fidelity deadly force judgment and decision-making simulations. *Journal of Experimental Criminology*, *9*(2), 189–212. http://doi.org/10.1007/s11292-012-9163-y

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*(4), 569–580. http://doi.org/10.1177/1368430210374609

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*(5), 403–411. http://doi.org/10.1177/1948550616633505

Kalev, A., Dobbin, F., & Kelly, E. (2006). Best Practices or Best Guesses? Assessing the Efficacy of Corporate Affirmative Action and Diversity Policies. *American Sociological Review*, *71*(4), 589–617. http://doi.org/10.1177/000312240607100404

Kawakami, K., Dovidio, J. F., & van Kamp, S. (2005). Kicking the habit: Effects of nonstereotypic association training and correction processes on hiring decisions. *Journal of Experimental Social Psychology*, *41*(1), 68–75. http://doi.org/10.1016/j.jesp.2004.05.004

Knowles, J., Persico, N., & Todd, P. (2001). Racial bias in motor vehicle searches: Theory and evidence. *Journal of Political Economy*, *109*(1), 230–237.

LaPiere, R. T. (1934). Attitudes vs. actions. *Social Forces*, *13*(2), 230–237.

Loftus, B. (2010). Police occupational culture: classic themes, altered times. *Policing & Society*, *20*(1), 1–20.

MacLeod, C. M. (1998). Training on integrated versus separated Stroop tasks: the progression of interference and facilitation. *Memory and Cognition*, *26*(2), 201–211. http://doi.org/10.3758/BF03201133

Macrae, C. N., Bodenhausen, G. V, Milne, A. B., & Jetten, J. (1994). Out of Mind but Back in Sight : Stereotypes on the Rebound. *Journal of Personality and Social Psychology*, *67*(5), 808–817.

Macrae, C. N., Milne, A. B., & Bodenhausen, G. V. (1994). Stereotypes as Energy-Saving Devices : A Peek Inside the Cognitive Toolbox. *Journal of Personality & Social Psychology*, *66*(1), 37–47.

Mekawi, Y., & Bresin, K. (2015). Is the evidence from racial bias shooting task studies a

smoking gun? Results from a meta-analysis. *Journal of Experimental Social Psychology*, *61*, 120–130. http://doi.org/10.1016/j.jesp.2015.08.002

Miller, E. K. (2000). The prefrontal cortex and cognitive control. *Nature Reviews Neuroscience*, *1*(1), 59–65. http://doi.org/10.1038/35036228

Mischel, W. (1968). *Personality and Assessment*. New York, NY: Wiley.

Morin, R., Parker, K., Stepler, R., & Mercer, A. (2017). *Behind the Badge: Amid protests and calls for reform, how police view their jobs, key issues and recent fatal encounters between blacks and police*. Washington DC. Retrieved from http://assets.pewresearch.org/wp-content/uploads/sites/3/2017/01/06171402/Police-Report_FINAL_web.pdf

Navon, D., & Gopher, D. (1979). On the economy of the human-processing system. *Psychological Review*, *86*(3), 214–255. http://doi.org/10.1037/0033-295X.86.3.214

Pashler, H. (1994). Dual-task interference in simple tasks: Data and theory. *Psychological Bulletin*, *116*(2), 220–244. http://doi.org/10.1037/0033-2909.116.2.220

Payne, B. K. (2001). Prejudice and perception: the role of automatic and controlled processes in misperceiving a weapon. *Journal of Personality and Social Psychology*, *81*(2), 181–192. http://doi.org/10.1037/0022-3514.81.2.181

Payne, B. K. (2005). Conceptualizing Control in Social Cognition : How Executive Functioning Modulates the Expression of Automatic Stereotyping. *Journal of Personality & Social Psychology*, *89*(4), 488–503. http://doi.org/10.1037/0022-3514.89.4.488

Payne, B. K. (2006). Weapon bias: Split-Second Decisions and Unintended Stereotyping. *Current Directions in Psychological Science*, *15*(6), 287–291.

Payne, B. K., Lambert, A. J., & Jacoby, L. L. (2002). Best Laid Plans : Effects of Goals on Accessibility Bias and Cognitive Control in Race-Based Misperceptions of Weapons.

Journal of Experimental Social Psychology, *38*(4), 384–396. http://doi.org/10.1016/S0022-1031(02)00006-9

Payne, B. K., Shimizu, Y., & Jacoby, L. L. (2005). Mental control and visual illusions: Toward explaining race-biased weapon misidentifications. *Journal of Experimental Social Psychology*, *41*(1), 36–47. http://doi.org/10.1016/j.jesp.2004.05.001

Pearson, A. R., West, T. V, Dovidio, J. F., Powers, S. R., Buck, R., & Henning, R. (2008). The Fragility of Intergroup Relations: Divergent Effects of Delayed Audiovisual Feedback in Intergroup and Intragroup Interaction. *Psychological Science*, *19*(12), 1272–1279. http://doi.org/10.1111/j.1467-9280.2008.02236.x

Pendry, L. F., & Macrae, C. N. (1996). What the Disinterested Perceiver Overlooks: Goal-Directed Social Categorization. *Personality & Social Psychology Bulletin*, *22*, 249–256. http://doi.org/10.1177/0146167296223003

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 751–83. http://doi.org/10.1037/0022-3514.90.5.751

Plant, E. A., & Peruche, B. M. (2005). The Consequences of Race for Police Officers' Responses to Criminal Suspects. *Psychological Science*, *16*(3), 180–184.

Plant, E. A., Peruche, B. M., & Butz, D. A. (2005). Eliminating automatic racial bias: Making race non-diagnostic for responses to criminal suspects. *Journal of Experimental Social Psychology*, *41*(2), 141–156. http://doi.org/10.1016/j.jesp.2004.07.004

Richardson, L. S., & Goff, P. A. (2012). Self-Defense and the Suspicion Heuristic. *Iowa Law Review*, *98*, 293–336.

Richeson, J. A., & Shelton, J. N. (2003). When Prejudice does not Pay: Effects of Interracial

Contact on Executive Function. *Psychological Science*, *14*(3), 287–290.

Richeson, J. A., Trawalter, S., & Shelton, J. N. (2005). African Americans' implicit racial attitudes and the depletion of executive function after interracial interactions. *Social Cognition*, *23*(4), 336–352. http://doi.org/10.1521/soco.2005.23.4.336

Robinson, M. D., Schmeichel, B. J., & Inzlicht, M. (2010). A Cognitive Control Perspective of Self-Control Strength and Its Depletion. *Social and Personality Psychology Compass*, *4*(3), 189–200. http://doi.org/10.1111/j.1751-9004.2009.00244.x

Rubin, J. (1972). Police identity and the police role. In R. Steadman (Ed.), *Police and the Community* (pp. 12–50). Baltimore, MD: Johns Hopkins University Press.

Salvatore, J., & Shelton, J. N. (2007). Cognitive costs of exposure to racial prejudice. *Psychological Science*, *18*(9), 810–5. http://doi.org/10.1111/j.1467-9280.2007.01984.x

Schmader, T. (2002). Gender Identification Moderates Stereotype Threat Effects on Women's Math Performance. *Journal of Experimental Social Psychology*, *38*(2), 194–201. http://doi.org/10.1006/jesp.2001.1500

Schmader, T., & Johns, M. (2003). Converging Evidence That Stereotype Threat Reduces Working Memory Capacity. *Journal of Personality and Social Psychology*, *85*(3), 440–452. http://doi.org/10.1037/0022-3514.85.3.440

Schmader, T., Johns, M., & Forbes, C. (2008). An Integrated Process Model of Stereotype Threat Effects on Performance. *Psychological Review*, *115*(2), 336–356. http://doi.org/10.1037/0033-295X.115.2.336

Shelton, J. N., Richeson, J. A., Salvatore, J., & Trawalter, S. (2005). Ironic Effects of Racial Bias During Interracial Interactions. *Psychological Science*, *16*(5), 397–402.

Shih, M., Pittinsky, T. L., & Ambady, N. (1999). Stereotype susceptibility: Identity salience and

shifts in quantitative performance. *Psychological Science*, *10*(1), 80–83. http://doi.org/10.1111/1467-9280.00111

Sidanius, J., Liu, J. H., Shaw, J. S., & Pratto, F. (1994). Social Dominance Orientation, Hierarchy Attenuators and Hierarchy Enhancers: Social Dominance Theory and the Criminal Justice System. *Journal of Applied Social Psychology*, *24*(4), 338–366. http://doi.org/10.1111/j.1559-1816.1994.tb00586.x

Sidanius, J., & Pratto, F. (1999). *Social Dominance: An Intergroup Theory of Social Hierarchy and Oppression*. New York, NY: Cambridge University Press.

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 & Social Psychology Bulletin*, *39*(3), 291–304. http://doi.org/10.1177/0146167212473157

Skogan, W. G., & Hartnett, S. M. (1997). *Community policing, Chicago style*. New York, NY: Oxford University Press.

Spencer, S. J., Steele, C. M., & Quinn, D. M. (1999). Stereotype Threat and Women's Math Performance. *Journal of Experimental Social Psychology*, *35*, 4–28.

Steele, C. M. (1997). A threat in the air. How stereotypes shape intellectual identity and performance. *The American Psychologist*, *52*(6), 613–629. http://doi.org/10.1037/0003-066X.52.6.613

Steele, C. M., & Aronson, J. (1995). Stereotype Threat and the Intellectual Test Performance of African Americans. *Journal of Personality & Social Psychology*, *69*(5), 797–811.

Stone, J., Lynch, C. I., Sjomeling, M., & Darley, J. M. (1999). Stereotype Threat Effects on Black and White Athletic Performance. *Journal of Personality and Psychology*, *77*(6),

1213–1227.

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behavior. *European Journal of Social Psychology*, *1*(2), 149–178.

Tajfel, H., & Turner, J. (1978). An Integrative Theory of Intergroup conflict. In *The social psychology of intergroup relations* (pp. 33–47).

Teahan, J. E. (1975). A Longitudinal Study of Attitude Shifts among Black and White Police Officers. *Journal of Social Issues*, *31*(1), 47–56. http://doi.org/10.1111/j.1540-4560.1975.tb00739.x

Trawalter, S., & Richeson, J. A. (2006). Regulatory focus and executive function after interracial interactions. *Journal of Experimental Social Psychology*, *42*, 406–412. http://doi.org/10.1016/j.jesp.2005.05.008

Turner, J. C., Oakes, P. J., Haslam, S. A., & McGarty, C. (1994). Self and Collective: Cognition and Social Context. *Personality & Social Psychology Bulletin*, *20*(5), 454–463.

Vandello, J. A., Bosson, J. K., Cohen, D., Burnaford, R. M., & Weaver, J. R. (2008). Precarious manhood. *Journal of Personality and Social Psychology*, *95*(6), 1325–1339. http://doi.org/10.1037/a0012453

Walker, S., & Katz, C. M. (2011). *The Police in America* (7th ed.). New York, NY: McGraw-Hill.

Wilson, J. Q. (1980). Varieties of Police Behavior. In M. Lipsky (Ed.), *Street-Level Bureaucracy* (p. 7). New York, NY: Russell Sage.

Yzerbyt, V., Dumont, M., Wigboldus, D., & Gordijn, E. (2003). I feel for us: The impact of categorization and identification on emotions and action tendencies. *British Journal of Social Psychology*, *42*(4), 533–549. http://doi.org/10.1348/014466603322595266