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## Thinking fast, not slow: How cognitive biases may contribute to racial disparities in the use of force in police-citizen encounters

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PRE-PRINT VERSION

**Thinking Fast, Not Slow: How Cognitive Biases May Contribute  
to Racial Disparities in the Use of Force in Police-Citizen Encounters\***

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Running head: Cognitive biases in police-citizen encounters

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**Thinking Fast, Not Slow: How Cognitive Biases May Contribute  
to Racial Disparities in the Use of Force in Police-Citizen Encounters**

**HIGHLIGHTS**

Cognitive “shortcuts” may influence officer use of force during police-citizen encounters.

These “shortcuts” may also influence how citizens act in encounters with police.

Racial bias may be amplified through reliance on cognitive shortcuts.

Cognitive shortcuts and racial bias together may contribute to use-of-force incidents.

Police and citizen biases may interact to cause racial disparities in such incidents.

**Thinking Fast, Not Slow: How Cognitive Biases May Contribute  
to Racial Disparities in the Use of Force in Police-Citizen Encounters**

**ABSTRACT**

*Purpose:* To illuminate how racial disparities in police use of force may arise and to guide research aimed at explaining such disparities.

*Methods:* We draw on research on policing, racial disparities in criminal justice, and cognitive bias and decisionmaking to argue that police-citizen encounters require rapid assessments that demand reliance on cognitive “shortcuts,” or heuristics, that may influence the use of force.

*Results:* When cognitive shortcuts rely on biases about the dangerousness of racial minorities, they can contribute to disparities in the use of force. These biases may interact with those that citizens hold, which creates a greater potential for disparities. In addition, biases of officers and citizens may be influenced by such factors as officer training, social context, and reaction time.

*Conclusions:* Research is needed that identifies cognitive shortcuts used during police-citizen encounters, conditions under which they are activated, and strategies for minimizing their role in contributing to racial disparities in the use of force.

Key words: policing; racial disparities; cognitive bias; use of force

## **Thinking Fast, Not Slow: How Cognitive Biases May Contribute to Racial Disparities in the Use of Force in Police-Citizen Encounters**

Scholars, practitioners, and policymakers have called for greater understanding of how and why use of force occurs during police-citizen encounters (Correll et al., 2014; Cox et al., 2014; Kahn et al., 2017; Klahm et al., 2011, 2014; Nowacki, 2015) and more generally to understand the role of race in criminal justice (Baumer, 2013; Mears et al., 2016; Sampson, 2009; Spohn, 2013; Ulmer, 2012; Unnever & Gabbidon, 2011). Numerous studies document the continuing tensions between police officers and members of the public (Lum & Nagin, 2017; Pollock et al., 2012, 2016; Weitzer, 2015). They also highlight the discord between what officers and citizens view as acceptable uses of force, particularly when police-citizen encounters end with one or more fatalities (Ferrandino, 2015; Kleinig, 2014; Rojek et al., 2012).

In recent years, cognition research has shown that humans are predisposed to make rapid decisions—to rely on “cognitive shortcuts,” or heuristics, to “think fast”—when they perceive risk. By contrast, “slow” thinking is more likely when sufficient time exists for careful and systematic deliberation and when no perceived threat exists (Kahneman, 2011). We argue that this predisposition can build on biases that may influence officers’ decisionmaking and contribute to unnecessary use of force among minorities (Brandl & Strohshine, 2012; Engel & Smith, 2009; Kahn, Goff, et al., 2016; Klinger & Brunson, 2009; Nix et al., 2017). Moreover, officer biases may not be the only salient factor that contributes to this phenomenon. Citizens may hold biases that are activated through reliance on cognitive shortcuts as well; these in turn may activate police officer biases. That is, officer *and* citizen bias—expressed or activated through reliance on cognitive shortcuts—may independently and jointly create interpretations of police-citizen encounters that increase the risk of the use of force. This potential is, we argue, especially likely for racial minorities, who more frequently reside in neighborhoods characterized by high crime rates and economic disadvantage (Mastrofski et al., 2002).

To advance these arguments and to identify directions for advancing theory, research, and

policy, the paper is structured as follows. First, we discuss police use of force, when it can occur, and what is known about its prevalence and its consequences. Second, we highlight the central role of officer discretion in determining whether to use force during encounters with citizens. Third, we describe the role of cognitive shortcuts in decisionmaking in general and in officer decisionmaking in particular. In so doing, we identify a critical implication of advances in research on cognitive decisionmaking—in high-risk situations that provide little time for reflection, officers must rely on cognitive shortcuts and in so doing may be likely to rely on biases about minorities to guide their decisions. We also identify the role that citizen biases, also amplified by reliance on cognitive shortcuts, about officers can play in elevating the risk that unnecessary use of force may occur. We identify, too, how officer and citizen biases may interact or be influenced by a range of factors, such as officer training, social context, and the amount of time available for officers and citizens alike to react. Finally, we conclude by discussing implications for research and policy.

## **1. Police Use of Force**

### a. Concerns about Police Use of Force

Scholars and numerous media outlets have noted the current public concern about police use of force (Bosman & Smith, 2017; Hickman & Poore, 2016; Legewie, 2016; Lum & Nagin, 2017; Marcus, 2016; Nix et al., 2017; Smith, 2017; Zimring, 2017). Force has long been understood to be necessary and permissible in certain contexts (see, e.g., Bittner, 1970). Increased concern about it, however, has stemmed both from longstanding awareness about racial disparities in the criminal justice system (Baumer, 2013; Ulmer, 2012; Unnever & Gabbidon, 2011) and, more recently, widely publicized media accounts of incidents involving excessive—or the appearance of excessive—use of force against unarmed citizens, sometimes ending in death (Kahn & McMahon, 2015; Nix et al., 2017; Prenzler et al., 2013; Rojek et al., 2012; Weitzer, 2015).

Several prominent non-lethal incidents are illustrative. In McKinney, Texas, in 2015, for example, police responded to a disturbance call at a suburban community pool. An officer was filmed cursing and pointing his gun at teenagers by the pool, and then dragging and pinning a young teenager who was in a swimsuit to the ground (Southall, 2015). A similar incident between an officer and a high school student in 2017 in Rolesville, North Carolina, also received considerable media coverage (Waggoner, 2017). Most recently, a simple overbooking situation on a United Airlines flight in Chicago, Illinois, escalated when a passenger refused to disembark and subsequently was forcefully removed from the plane by aviation officers; the videotape of the incident was widely seen and led to public condemnation of United Airlines (Aratani, 2017).

Lethal incidents have arguably played a larger role in national discussions and debates about police use of force and concerns that unnecessary and excessive force not only occur but also result in citizen deaths. For example, the footage of the shooting deaths of Keith Lamont Scott in Charlotte, North Carolina (Lacour, 2016), Samuel DuBose in Cincinnati, Ohio (Stolberg, 2016), Charly Leundeu Keunang in Los Angeles, California (Mather, 2016), Terence Crutcher in Tulsa, Oklahoma (Juozapavicius, 2017), Philando Castile in Falcon Heights, Minnesota (Pearce et al., 2016), and Alton Sterling in Baton Rouge, Louisiana (Rico, 2017)—these all “have gone ‘viral’ on social media and have led to unprecedented levels of public discontent with the police” (Nix et al., 2017, p. 310). Protests have consistently arisen in response to instances of police use of lethal force, such as the deaths of Freddie Gray in Baltimore, Maryland (Fenton, 2017), Zachary Hammond in Seneca, South Carolina (Dixson, 2015), Michael Brown in Ferguson, Missouri (Glionna et al., 2014), Eric Garner in Staten Island, New York (Susman & Queally, 2014), Mary Hawkes in Albuquerque, New Mexico (Carcamo, 2014), Tamir Rice in Cleveland, Ohio (Muskal, 2014), Israel Hernandez-Llach in Miami Beach, Florida (Madigan, 2013), and Rekia Boyd in Chicago, Illinois (Crepeau, 2015).

Such incidents, as well as others involving non-lethal use of force, provide little credible basis for understanding the prevalence of or trends in police use of force. They have, however, ignited debate about when and how often this type of police power can and should be employed.

## b. Police Use of Force: What It Is and When It Can and Should Occur

It is generally accepted that the police should use force when doing so is necessary to maintain the safety of victims, bystanders, or fellow officers (Barkan & Cohn, 1998; Bittner, 1970; Sousa et al., 2010). Even so, no uniform definition of the term “use of force” exists (Brandl & Strohshine, 2012; Hickman et al., 2008; Klahm et al., 2014; Paoline & Terrill, 2011). The International Association of Chiefs of Police (IACP) defined the term in its 2001 report as “that amount of effort required by police to compel compliance from an unwilling subject” (p. 1) and indicated that this definition encompasses such categories as physical force (e.g., fists), chemical force (e.g., mace), impact force (e.g., batons), electronic force (e.g., TASERs), and potentially deadly force (e.g., firearms). Deployment of police canines to “bite and hold” suspects has been argued to constitute part of a use-of-force continuum (Dorriety, 2005). Similarly, some scholars have emphasized that verbal commands can be viewed as entailing coercion and that this coercion in turn constitutes an essential aspect of police use-of-force powers (Klinger, 1995). Accordingly, Terrill (2003) has defined use of force as “as acts that threaten or inflict physical harm on suspects” (p. 56). This definition includes intimidating speech and threats as well as the more tangible forms of force referenced by the IACP.

The legal standard that creates grounds for officer discretion in the use of force comes from the United States Supreme Court’s *Graham v. Connor* (1989) ruling. In its decision, the Court granted deference to police officers. The underlying rationale for the Court’s decision involves the acknowledgment that the dangerousness of any given police-citizen encounter cannot be fully anticipated. Accordingly, individual officers must determine for themselves, on a case-by-case basis, the level of force needed to reduce or eliminate a potential threat that may arise during an encounter with one or more citizens. In *Graham v. Connor* (1989, pp. 396-397), the Court called for the use of an “objective reasonableness” standard that should apply to an allegation of the improper use of force by law enforcement:



The “reasonableness” of a particular use of force must be judged from the perspective of a reasonable officer on the scene, rather than with the 20/20 vision of hindsight. . . . “Not every push or shove, even if it may later seem unnecessary in the peace of a judge’s chambers,” *Johnson v. Glick*, 481 F.2d, at 1033, violates the Fourth Amendment. The calculus of reasonableness must embody allowance for the fact that police officers are often forced to make split-second judgments—in circumstances that are tense, uncertain, and rapidly evolving—about the amount of force that is necessary in a particular situation. . . . The “reasonableness” inquiry in an excessive force case is an objective one: the question is whether the officers’ actions are “objectively reasonable” in light of the facts and circumstances confronting them, without regard to their underlying intent or motivation.

The *Graham* decision created the foundation for officers to use discretion in determining how to proceed in citizen encounters, including when to apply force. Discretion is prominent in many aspects of criminal justice (Mears & Bacon, 2009; Vorenberg, 1976; Walker, 1993). For example, prosecutors have considerable leeway in making the “to charge or not to charge” decision (Davis, 2007; Howell, 2014). Yet, the discretion afforded officers is potentially more influential because they determine entry into the criminal justice system (Goldstein, 1960; LaFave, 1965; Nickels, 2007; Phillips, 2016; Smith et al., 2005). As the *Graham v. Connor* ruling highlights, police discretion extends to the decision to employ force and requires that officers ground these decisions in a subjective, case-by-case, assessment of risk.

How, though, should such subjective assessments be made to ensure that officer decisions most effectively protect the public and do so without officers unnecessarily relying on force? One approach consists of police organizations adopting policies that identify a continuum of appropriate levels of force depending on the circumstances of the police-citizen encounter (Klinger, 1995; Sousa et al., 2010; Terrill, 2003, 2005; Terrill & Paoline, 2012; Womack et al., 2016). Typically, this approach includes an assessment of how officers should proceed after evaluating the level of citizen resistance. In making this assessment, they consider the following range of possibilities: compliance (e.g., follows the officer’s orders with no resistance); passive

resistance (e.g., is uncooperative or nonresponsive but with relatively minimal defiance); active resistance (e.g., attempts to run away to avoid being placed in custody); aggressive resistance (e.g., attempts to inflict harm on the officer by punching or kicking); and aggravated aggressive resistance (e.g., attempts to inflict serious bodily harm on the officer by attacking with weapons) (IACP, 2001; see also Atherley & Hickman, 2014; Terrill et al., 2008).

After making an assessment, officers are obliged to respond to the noncompliant conduct, if any, with an appropriate level of force. Officers' responses follow a continuum as well and can include: no force (e.g., mere presence on scene may successfully resolve a tense situation); verbalization (e.g., issuance of commands such as "Stop" or "Don't move"); empty-hand control (e.g., grabbing or striking a subject to restrain him/her); less-than-lethal means (e.g., the use of projectiles, batons, pepper spray, or electronic force); and lethal means (e.g., the use of firearms to gain control of a subject) (Terrill, 2005; Terrill & Paoline, 2017).

Researchers as well as members of the public agree that the decision to use force is largely appropriate within situations that involve citizen noncompliance, hostile confrontations with suspects, or other volatile circumstances in which a subject must be regulated to maintain order and safety (Gerber & Jackson, 2017; Kleinig, 2014; Nix et al., 2017). However, a particular application of force can be deemed illegitimate if it was either unnecessary or excessive, which the IACP (2001) has defined as "an amount and/or frequency of force greater than that required to compel compliance from a willing or unwilling subject" (p. 1). For example, if a driver promptly complies with an officer's orders to present a license and registration during a vehicle stop and shows no signs of resistance during that interaction, then any use of force at that point would be unnecessary as well as unjustifiable. Similarly, "if a citizen fails to comply with a police request by going limp (i.e., passive resistance), the amount of force that a police officer is expected to apply is considerably less than if a citizen attempts to strike an officer with a baseball bat (i.e., assaultive resistance) to avoid apprehension" (Paoline & Terrill, 2011, p. 179).

In short, legal standards and policies concerning the use of force exist. However, the variety of police-citizen encounters creates enormous leeway for officer discretion (Goldstein, 1960;

Nickels, 2007; Prenzler et al., 2013; Walker, 1993). Discretion is largely unavoidable. Courts and legislatures, for example, cannot enumerate every situation that would require particular kinds of force. At best, they provide broad guidelines (Marcus, 2016; Walker, 1993). The end result is that officers must exercise discretion, which sometimes results in an appropriate use of force and at other times unnecessary, excessive, or deadly force.

### c. Prevalence of Police Use of Force

Lethal and nonlethal use-of-force incidents dominate media accounts and create the impression that such incidents occur frequently. However, relative to all police-citizen encounters, they occur relatively infrequently (King & Matusiak, 2013; Nix et al., 2017; Terrill et al., 2008). Most encounters involve traffic incidents, such as a vehicle stop related to speeding enforcement or a traffic accident (Eith & Durose, 2011; Engel, 2005; Lee, 2016; Mears & Lindsey, 2016). For example, in a study of contacts between law enforcement and members of the public, Prenzler et al. (2013) found that approximately 17 percent of survey respondents experienced face-to-face contact with law enforcement, and within that group, less than 2 percent reported that officers used, or threatened to use, force (see also Durose et al., 2005, 2007; Eith & Durose, 2011; Langan et al., 2001). When use of force does occur, excessive force and physical harm are also rare. In a national study, for example, Taylor et al. (2011) found that in use-of-force cases where injuries occurred, most of the injuries consisted were “relatively minor, typically consisting of bruises, abrasions, and muscle strains and sprains” (p. 214).

The relative rarity of use of force, excessive or deadly force, does not negate its social importance. As Hough and Tatum (2012) have emphasized, “it is a settled issue that police use of force in the United States is infrequent. . . . This infrequency, however, does not represent the proportional importance of using force” (p. 39). In addition, and notwithstanding Hough and Tatum’s (2012) observation, extant estimates may understate the true prevalence of use-of-force incidents and related injuries in some places due to inconsistent law enforcement agency

reporting methods (Alpert, 2016; Klahm et al., 2014; Klinger & Slocum, 2017; Taylor et al., 2011). Hickman et al. (2008), for example, concluded from their review that most use-of-force estimates do not accurately represent what occurs in other jurisdictions. To illustrate, the authors found that estimated rates of reported nonlethal police force varied across 36 studies, from a low of less than 1 percent to a high of 32 percent (Hickman et al., 2008). However, jurisdictions vary greatly in their operationalization of the “use of force,” and they vary in the consistency with which they report and record use-of-force incidents. As a result, comparisons of estimates within and across jurisdictions cannot accurately be made (see, generally, Hickman & Poore, 2016).

#### d. Consequences of Police Use of Force

Police use of force is, of course, desirable when it constitutes the most effective approach to ensuring citizen and officer safety. It is undesirable when it is not necessary and alternative strategies exist that could more effectively achieve this goal while reducing potential harms from the use of force. What, then, are the harms that may result? Research has identified a number of consequences that may result when officers apply force during police-citizen encounters.

First, the use of force may cause physical harm, and possibly psychological harm, to citizens (Kaminski et al., 2012; Smith et al., 2010). Hickman et al. (2008), for example, examined data from the Police-Public Contact Survey (PPCS); they found that 14 percent of all incidents involving force resulted in some type of injury and that 24 percent of all arrestees experienced one (p. 579). Evidence that such injuries may have increased over time comes from Taylor et al. (2011), who found that the number of injuries sustained by suspects increased more than 72 percent from 2003 to 2008, and that suspect injuries occurred twice as often as officer injuries during force-involved events. That said, reliable and accurate prevalence estimates of harm both over time and across jurisdictions do not exist. By extension, their occurrence in situations where use of force was necessary versus their occurrence in situations where it was unnecessary is largely unknown. Regardless, the potential remains for potential physical or psychological

harm.

Second, there may be harms to officers that arise during use-of-force incidents (Bierie, 2015; Covington et al., 2014; MacDonald et al., 2009; Paoline et al., 2012). For example, Smith et al. (2010) found that officers sustained injuries in 10 to 20 percent of all use-of-force incidents. In addition, the likelihood of injury increases when spatial proximity to citizens, suspects, or others increases. This pattern is reflected in the Federal Bureau of Investigation's Law Enforcement Officers Killed and Assaulted (LEOKA) Program, which indicates that over 30 percent of assaults on officers occur in situations that required close proximity to individuals, such as pursuing robbery suspects, making an arrest, or transporting arrestees (see, e.g., United States Department of Justice, 2011, 2012, 2013, 2014, 2015, 2016).

Physical harm to officers may occur after use-of-force incidents as well. To illustrate, in 2016, in Dallas, Texas, a protest against several police shootings turned violent and led to the shooting of fourteen officers, five fatally, during an ambush (Fausset et al., 2016). That same year, in Baton Rouge, Louisiana, six officers were shot, three fatally, in alleged retaliation against the police following several widely publicized deadly force incidents (Kaplan, 2016). There is little indication that fatal line-of-duty injuries have increased among officers (Maguire et al., 2017). That, however, does not vitiate concern about use-of-force harms to police.

A third harm that can arise from use-of-force incidents is "de-policing," that is, a reduced emphasis by the police in enforcing the law (Paoline et al., 2012). Such actions can arise because officers may seek to avoid further criticism following a high-profile use-of-force incident, which has been referred to as the "Ferguson Effect" (Nix & Wolfe, 2016; Pyrooz et al., 2016; Rosenfeld, 2015; Wolfe & Nix, 2016). After the deadly shooting of Michael Brown in Ferguson, Missouri, officers reportedly felt demoralized and less willing to proactively undertake traditional police activities. "De-policing" has not been well-documented or shown to have contributed to crime (Pyrooz et al., 2016; Tiwari, 2016). Such an effect, however, is possible. "De-policing," too, has the potential to harm police-citizen relations and thereby reducing the willingness of citizens to cooperate with the police during encounters or in efforts to cooperate in

implementing community-based strategies to reduce crime.

A fourth harm is the potential drain on law enforcement agency resources. Use-of-force incidents can result in serious injuries and, in turn, lawsuits, accrediting agency penalties, worker compensation claims, and required trainings and personnel changes (Haney, 2016; Hickman & Poore, 2016; Marcus, 2016; Paoline et al., 2012; Prenzler et al., 2013; Smith et al., 2010).

Finally, another harm, and arguably the one that is most likely and pervasive, is the potential for use-of-force incidents, especially those that are unnecessary, excessive, or deadly, to undermine police legitimacy (Epp et al., 2016). For citizens to cooperate with the police, the institution of policing must be viewed as acting fairly and thus as worthy of deference (Jackson et al., 2013; Reisig, 2010; Sunshine & Tyler, 2003; Tyler, 2002, 2004). When citizens view the police as acting in a procedurally or substantively unjust manner, they may be less likely to regard law enforcement as a legitimate institution and, in turn, may be less cooperative and more resistant to police commands (Lum & Nagin, 2017; Skogan & Frydl, 2004; Skolnick, 1999).

This potential is especially likely in racial and ethnic minority communities, where mistrust of the police may be greater. Evidence from analysis of the PPCS data suggests that Whites and Blacks alike hold similarly favorable views of the police when questions focus on how respectfully and properly officers managed traffic accidents, traffic stops, and service calls—in general, over 90 percent of all respondents felt that the police acted respectfully and properly (Eith & Durose, 2011, p. 6). However, differences arise in response to questions about how the police manage investigations of crimes and residents suspected of wrongdoing. For example, while 82 percent of Whites said that the police acted properly, only 70 percent of Blacks said that they did so. Some scholarship suggests that the differences in views about the police may be more pronounced (Unnever and Gabbidon, 2011). For example, according to Engel and Smith (2009), “distrust of the police is high among some minority groups and is endemic in many inner-city neighborhoods. These communities can become flashpoints for violence and civil unrest after a police shooting, and police effectiveness—which depends on public trust and support—can be severely compromised” (p. 144). A lack of trust in and respect for the policing

institution can result in less citizen compliance, more citizen complaints, and riots (Carr et al., 2007; Gerber & Jackson, 2017; Lum & Nagin, 2017; Terrill & Paoline, 2015; Weitzer, 2015).

Ultimately, law enforcement efforts necessarily entail risks. When officers fail to act in a timely and appropriate manner, lives can be put at risk. At the same time, harms can arise when officers fail to use force appropriately and when they apply it unnecessarily or excessively. There is, then, a need to understand the factors that contribute to police use of force and, in a related vein, how to ensure that it is used appropriately and effectively.

## **2. Factors that Influence Police Decisions to Use Force**

Research has identified a range of factors that can influence police officers' use of force. These factors fall into four categories—individual, situational, organizational, and ecological—and the literature on them is vast (see, generally, Covington et al., 2014; Fridell & Lim, 2016; McCluskey & Terrill, 2005; Prenzler et al., 2013; Willits & Nowacki, 2014).

Studies that have focused on individual-level factors posit that a small portion of officers account for a large share of use-of-force events. These studies suggest that the characteristics of some officers may affect their likelihood of using force. For example, research has found that officers with more education and job experience are less likely to rely on verbal or physical force (Brandl & Strohshine, 2012; Lim et al., 2014; Paoline & Terrill, 2007), and that those with a prior history of using force are more likely to do so again in the future (Lawton, 2007).

Prior research on situational factors considers the characteristics of situations, which can include specific circumstances, such as the time of day in which an encounter occurs, and/or the confluence of unique officer and citizen characteristics. Situational aspects of encounters can encompass offense seriousness, presence of evidence, a suspect's active criminal justice status, and his or her prior record (Covington et al., 2014). For instance, Bolger's (2015) meta-analysis of the correlates of use-of-force decisions found that features of the actual police-citizen interaction (e.g., offense seriousness, suspect resistance, presence of multiple officers, when

citizens are in conflict with one another) are most strongly associated with use-of-force decisions, as they are connected to perceptions of potential dangerousness of the citizen or suspect as well as the event (see also Jetelina et al., 2017; Lawton, 2007; Leinfeldt, 2005). Situational aspects of encounters can include other dimensions as well. For example, studies have shown that use of force occurs more frequently during overnight officer shifts (e.g., 11:00 p.m. to 7:00 a.m.) (Brandl & Stroschine, 2012). Such dimensions may vary in their salience depending on the age, sex, race, and other characteristics of officers and citizens.

Research that adopts an organizational perspective suggests that use of force is influenced by characteristics of agencies, such as police department size, arrest rates, formal policies, supervision practices, and minority representation among police personnel. For example, agencies with strong administrative policies that restrict officer discretion, as well as those that have higher educational standards, have fewer lethal-force incidents, while those that are more spatially differentiated have higher rates of complaints (see, generally, Hickman & Piquero, 2009; Nowacki, 2015; Shjarback & White, 2016).

Finally, another line of scholarship examines police use of force from an ecological perspective (Kane, 2002). This work examines the environments where use-of-force occurs. Ecological studies have found that officers are more likely to use greater levels of force in high-disadvantage and high-violence neighborhoods, and that the frequency of police misconduct—including use-of-force—is greater in jurisdictions with higher rates of violent crime (Alpert & MacDonald, 2001; Eitle et al., 2014; Lee, 2016; Klinger et al., 2016; Terrill & Reising, 2003).

Our focus is on the role of discretion. As we discuss below, discretion is central to how officers proceed in police-citizen encounters and it may be affected by individual, situational, organizational, and ecological factors (Lum & Nagin, 2017; Smith et al., 2005; Stroschine et al., 2008; Walker, 1993). In turn, discretion creates grounds for the influence of biases that officers, as well as citizens, may have (Eterno et al., 2017; Ishoy, 2016; Rojek et al., 2012).

### **3. The Influence of Cognitive Biases in Decisionmaking**



In recent decades, a large body of research has found that human cognition proceeds along two paths. As detailed by Nobel Laureate, Daniel Kahneman (2011), in his book, *Thinking, Fast and Slow*, one path consists of what he terms “System 1” thinking. This path is a faster and more intuitive mode of processing information to arrive at a decision rapidly. The other path, “System 2” thinking, consists of a slower, more deliberate and systematic mode of processing information, evaluating alternative possibilities, and then determining how to proceed.

Kahneman’s (2011) account builds on a larger literature on cognitive biases, which refer to a variety of ways in which errors in thinking and decisionmaking may arise (see, e.g., Baron, 2007; Haselton et al., 2005; Hilbert, 2012). These errors consist of a variety of biases, such as recency, availability, and confirmation bias, which we discuss further below. The unifying element consists of an unconscious bias in judgment or interpretation, not a bias toward some group. However, in recent decades, scholars have emphasized the role of “implicit bias” as a specific category of unconscious error, one that entails potentially incorrect assumptions or inappropriate assessments about particular groups, such as males or minorities. The bias is “implicit” in the sense that an individual’s decisionmaking may be influenced by a bias about a particular group without being aware of, or even when opposed to, it (see, e.g., Amodio & Devine, 2006; Banaji & Greenwald, 2016; Dovidio et al., 2002; Dovidio & Gardner, 2004; Hamilton & Trolie, 1986; Hugenberg & Bodenhausen, 2004; Levinson & Smith, 2012; Payne, 2005). Whatever the origin of a particular type of bias, the end result is that decisionmaking errors can occur.

The two approaches identified by literature and termed by Kahneman (2011)—“fast” thinking and “slow” thinking, respectively—operate differently. “Slow,” System 2 thinking, for example, demands that individuals have sufficient time to take in information and evaluate it. Ideally, all judgments would be shaped by System 2 (“slow”) processing. However, time constraints, uncertainty, and other pressures lead System 1 (“fast”) processing to take precedence in influencing decisions. A person walking alone in the woods at night, for example, might hear a twig break. Rather than deliberate slowly in a System 2 manner about what explains the sound,

the person instead relies, without consciously intending to do so, on System 1 processing, that is, a rapid-fire assessment that might well lead to a near-instantaneous decision to run.

To arrive at such rapid assessments, cognitive “shortcuts” or “heuristics” are needed (Kahneman, 2011). Without them, humans would be consigned to working slowly through algorithms to arrive at a decision to, in this instance, walk at the same pace or flee. The need for “fast” thinking and thus for conceptual shortcuts has been documented in many facets of life (Gladwell, 2005). In medicine, for example, physicians have little time to collect and process information about patients (Gawande, 2007). The pressure from processing large volumes of patients dictates that diagnoses occur quickly. By some estimates, for example, physicians arrive at their diagnoses within one to two minutes of meeting patients (Groopman, 2007). They do so in large part because they must if they are to diagnose and treat every patient on their caseload.

The advantage of cognitive shortcuts lies in the ability to save time and make a decision rapidly when conditions, such as potential danger, require fast thinking. The disadvantage is that they can result in a greater likelihood of error. Shortcuts require reliance on assumed relationships or patterns, which may or may not be accurate. Here, we identify several types that are commonly identified in the literature. We do so to illuminate the diverse ways in which police-citizen encounters may be influenced by decisionmaking errors.<sup>1</sup> It is important to emphasize that cognitive error, or bias, does not have to entail bias toward a particular group. Rather, it entails a process of relying on an inaccurate assumption. When the assumption centers around a group—such as the notion that Blacks are more likely to be criminal when, depending on the area, they may not be—the cognitive error can lead to “implicit bias” toward that group.

This example warrants additional discussion. The police—as well as law enforcement agencies and the public—typically operate with little accurate information about actual crime rates, much less race-specific differences in offending. Instead, officers rely on calls to the police, arrests, and personal familiarity with individuals and communities. All of these sources may provide distorted impressions about crime prevalence (Mears et al., 2016). The end result, then, is that the accuracy of officers’ views about the criminality of Blacks and other groups is

typically unknown. In some cases, it may be accurate—as when, for example, officers respond to a call to a home where a resident has an extensive history of violence—and others inaccurate. Similarly, citizens may hold accurate or inaccurate views about the professionalism of police.

Against that backdrop, then, several prominent types of cognitive errors bear mention. One is recency bias. Here, an officer may generalize from the last encounter with a citizen to the next citizen with whom they interact. If the citizen in the recent encounter was hostile, the officer then assumes that the citizen in the next encounter is hostile.

Another type is availability error. Officers in this case may rely on information that is most readily available to them—that is, “by the ease with which relevant examples come to mind” (Groopman 2007:64)—and rely on it when interpreting an individual’s behavior or a situation. For example, if an officer has read in the news about hostile citizen views about the police, he or she may be more likely to view a citizen during a subsequent encounter as uncooperative. The citizen might be acting cooperatively, but availability error leads the officer to interpret the citizen’s actions in a manner that accords with, or has been colored by, selecting information that was most readily available to him or her prior to the encounter.

Related to this type is confirmation bias error. For example, the police may focus on a suspect’s race and, at the same time, equate those who are Black with criminality (Bridges & Steen, 1998; Chiricos et al., 2004; Harris, 2015). They then select on characteristics, attitudes, or behaviors that confirm their view of the individual as a “criminal” (Fridell & Lim, 2016; Groopman, 2007; Kahneman, 2011).

Cognitive errors such as these have the potential to be amplified through priming, or framing, effects, which are more likely when multiple decisionmakers and sequences of decisions are involved. If, for example, one officer describes an individual as hostile, the officer who hears this description may accept this account and then interpret the individual’s behavior in this light. Of course, the initial framing may be correct. When, however, it is incorrect, the end result is one in which misunderstanding begets more misunderstanding.

Mears and Bacon (2009) have argued that similar cognitive shortcuts—and the errors that

they may generate—arise throughout criminal justice (see also Fridell & Lim, 2016).

Prosecutors, for example, also face tremendous case processing pressure and may rely on assumptions that enable them to arrive at quick decisions. These shortcuts may stem from recent defendants prosecutors have seen, confirmation bias, framing errors, and the like. Here, again, the advantage of these shortcuts lies in the ability of prosecutors to make decisions about large numbers of cases, which enables the court and criminal justice system to function (Bernard et al., 2005). The disadvantage lies in the fact that the assumptions that underlie the shortcuts may be incorrect.

Reliance on cognitive shortcuts is not—it should be emphasized—restricted to the police or justice system actors. Citizens, too, rely on them. That creates the potential for decisionmaking errors on their part. For example, if a citizen has read about alleged police officer misconduct, availability bias may lead them to be more likely to interpret a police officer’s actions, in a subsequent encounter, as unprofessional. As we discuss below, this situation—one in which both the police and citizens may rely on cognitive shortcuts that result in decisionmaking errors—highlights the need to understand the nuances of bias in police-citizen encounters.

#### **4. Discretion, Cognitive Biases, and Racial Disparities in Use of Force in Citizen Encounters**

When police enter dangerous situations, or when encounters with the public create the potential for danger, they must rely on System 1 cognitive processing. That is, they must rely on “fast” thinking because little time exists to reflect on how to proceed. This rapid processing is essential for any circumstance—emergency surgery, a car slamming on its brakes in front of us, or intervening in a dangerous situation—in which a decision must be made quickly. And it requires a reliance on cognitive shortcuts. These shortcuts provide a vehicle through which accurate assessments can be made. However, they also contribute to decisionmaking errors when they rest on flawed assumptions. In turn, such errors may be compounded when

individuals have considerable discretion, as the police do when deciding whether to use force.

To advance this argument, we below discuss five ways—depicted in figure 1—in which bias may channel police-citizen interactions in ways that contribute to a greater likelihood that force will be used, especially against Blacks and other racial or ethnic minorities, and that it will be unnecessarily or excessively used. First, we describe how *officer biases* may affect their decision making in these situations. Second, we then describe how *citizen biases* may adversely affect their encounters with the police and, in particular, contribute to the deadly use of force. Third, we identify how the respective biases of the police and citizens may *interact* to shape these encounters. Fourth, we then identify how bias in these encounters may adversely affect *future police-citizen encounters* and result in use of force when such force was not necessary or could have been avoided. Fifth, we discuss a variety of *amplifying forces* that may increase the influence of bias in police-citizen encounters and contribute to the use of force.

Insert figure 1 about here

#### a. Officer Biases Can Adversely Affect Citizen Encounters and Contribute to Use of Force

The critical features that trigger System 1 “fast” thinking are perceived threat or urgency, a need to arrive at a decision rapidly, and a diversity of options for assessing a situation and deciding how to act (Kahneman, 2011). Many police-citizen encounters involve precisely these conditions and so create the opportunity for the police to rely heavily on incorrect assumptions about various groups, what might be viewed in medical terminology as a form of “patient attribution error” (Groopman, 2007; Mears & Bacon, 2009). The assumptions may rest on plausible group-level inferences. For example, males typically commit more crime than females (Steffensmeier & Allan, 1996). However, group differences do not necessarily exist in all places or times or to the same degree. In addition, they do not necessarily imply that a member of a given group is more likely to commit, or to have committed, a crime or to pose a threat.

Many groups may be viewed as criminal, a threat, or as likely to resist. To illustrate, males may be viewed not only as more likely to be criminal but also as likely to resist. Research on this relationship is mixed. Some studies have shown that female suspects are less likely to be violent or resistant during interactions with police (Bierie, 2015; Whichard & Felson, 2016), whereas other studies have found that women are more likely to resist or that gender is not significantly related to uncooperative behavior during police-citizen encounters (Covington et al. 2014; Engel, 2003). Even so, males account for 95 percent of citizen killings by the police (Zimring, 2017).

The mentally ill are another group that the police may be more likely to view as criminal or a threat (Alpert, 2015; O'Brien & Thom, 2014). Studies suggest that officers are more likely to use force against individuals who have a mental illness because such individuals may be viewed as unpredictable and as prone to criminal behavior (Holloway-Beth et al., 2016; Kahn, Thompson, & McMahon, 2016; Mulvey & White, 2014).

To date, however, race has featured most prominently in affecting police decisionmaking or as a factor thought to influence it. In particular, Blacks are likely to be viewed as criminal, and criminals are assumed to be Black (Chiricos & Eschholz, 2002; Chiricos et al., 2004; Mancini et al., 2015; Epp et al., 2016). As Welch (2007, p. 276) has emphasized, “perceptions about the presumed racial identity of criminals may be so ingrained in public consciousness that race does not even need to be specifically mentioned for a connection to be made between the two because . . . ‘talking about crime is talking about race’ (Barlow, 1998, p. 151).” This association occurs for other racial and ethnic groups as well (Pickett, 2016; Solis et al., 2009; Welch et al., 2011). However, because of the history of race relations in America and longstanding tensions between Blacks and the police, the association may be more pronounced for Black citizens (Gabbidon et al., 2011; Unnever & Gabbidon, 2011; Mears et al., 2016; Sampson & Lauritsen, 1997). Although some studies have shown that minority race is not a significant predictor of police contact (e.g., Pollock et al., 2012, 2016), others have demonstrated that disproportionate minority representation exists among those stopped, searched, ticketed, arrested, and subject to use of

force (Eith & Durose, 2011; Epp et al., 2014; Fridell & Lim, 2016; Kahn et al., 2017; Langton & Durose, 2013; Nix et al., 2017; Ross, 2015; White, 2015; White & Fradella, 2016).

Kahn et al.'s (2017) study illustrates the salience of cognitive shortcuts and how, when police may consciously or unconsciously view Blacks as more likely to be criminal, they may lead police to be more likely to use force against Blacks. The authors found that racial bias may be more evident earlier in police-suspect interactions because there is less available information about the situation. In these cases, officers are more likely to fall back on assumptions based on perceived characteristics of suspects, such as their race.

In a different type of study that also illustrates how cognitive shortcuts may influence decisionmaking, Legewie (2016) examined racial bias in the use of force after events such as the shooting of an officer by a Black suspect. The findings indicated that two fatal shootings of police officers by Black suspects significantly increased the use of police force against Blacks in the days after the shootings. However, the use of force against Whites and Hispanics did not change, and the author found no effect of two other police murders by a White and Hispanic suspect. In such cases, reliance on cognitive shortcuts when interpreting a situation and how to proceed may have centered on assumptions about the likelihood of Black violence and in turn biased officers toward use of force in situations where they typically would not use it.

Other types of studies reinforce the finding that Black-ness may influence officer decisionmaking. For example, White (2015) investigated the relationship between skin tone and police contact—specifically, being stopped or arrested by the police. She found that darker-skinned Blacks and Latinos were stopped and arrested more often than lighter-skinned members of the same group. An experimental study by Correll et al. (2014) suggests that race activates cognitive shortcuts among the general public, not just officers. College students were presented with computer simulations in which they had to decide whether to shoot a potentially hostile suspect. The students were markedly more likely to shoot Blacks. Notably, however, experiments with police officers suggested no clear pattern (see also Cox et al., 2014), and raised the question of whether police training can help officers to overcome the influence of racial

stereotypes. Correll et al. (2014) cautioned that laboratory study results may not generalize to “real-world” police encounters where high levels of fear and arousal may be involved. They highlighted, for example, that “accounts of officer-involved shootings suggest that these events involve a stunning departure from normal psychological functioning” (p. 210).

In the discussion below, we discuss the relevance of contextual factors and the influence they may have on the way officers proceed in cases involving racial and ethnic minorities. Here, however, one example warrants emphasis because it highlights the potential for officers to modify, or channel, System 1 “fast” thinking through System 2 “slow” thinking. Accounts of bias typically assume that racial minority status is used, consciously or unconsciously, in ways that seek to harm Blacks. However, the opposite pattern may exist—officers, for example, may be biased against taking action in situations involving Black citizens or suspects. The officers may be aware that their actions could be subject to intensive scrutiny. Accordingly, as soon as they apprehend a citizen’s race, they become deliberately biased toward inaction or slower responses—at least in those situations where time permits “slow” thinking—to avoid seeming to be racist (see James et al., 2013, 2014; see, generally, Fridell & Lim, 2016; Klinger, 2004).

An illustration of this possibility can be seen in experiments undertaken by James et al. (2013). In video simulations of deadly-force incidents, participants took longer to shoot Black suspects than White or Hispanic suspects, and were more likely to fail to shoot armed Black suspects relative to armed White or Hispanic counterparts. In a later simulation-based experiment, James et al. (2014) found that although participants demonstrated greater threat responses against Black suspects than White or Hispanic suspects, which suggested the presence of subconscious racial bias, participants took longer to shoot armed Black suspects than armed White or Hispanic suspects, indicating a behavioral bias.<sup>2</sup> This more deliberative approach, however, creates the risk of harm to the police and to Black citizens or suspects, especially if it leads officers to fail to use force when doing so is appropriate and may prevent injury or death.

#### b. Citizen Biases Can Adversely Affect Encounters and Contribute to Use of Force



Face-to-face police-citizen encounters are relatively rare and typically occur during traffic stops or calls for assistance (Eith & Durose, 2011; Engel, 2005). In these encounters, how the police act toward citizens may influence how citizens respond; conversely, how citizens respond to police requests may influence how the police react. Citizens—like the police—may rely on cognitive shortcuts, or System 1 “fast” thinking, when interpreting the situation and officers’ words and actions. To the extent that citizens fear the police or view the police as biased against them, this bias may decrease their likelihood of compliance regardless of how an officer acts.

Prior research has found that police behavior constitutes one of the strongest determinants of citizens’ attitudes toward the police (e.g., Avdija, 2010). The most common way that citizens come into contact with the police is through traffic stops and moving violations (Mears & Lindsey, 2016), encounters that are not likely to increase the perception of officers as friendly or helpful. Indeed, Gibson et al. (2010) found that individuals who experienced traffic stops in the past year were less likely to contact the police for assistance or to report neighborhood problems. Similarly, Lerman and Weaver (2014) found that traffic stops decreased citizens’ level of civic engagement in urban neighborhoods, especially when the stops involved searches or force.

Direct contact is not needed, however, to form an opinion about the police (Avdija, 2010; Gibson et al., 2010; Lee, 2016; Peck, 2015). For example, when citizens see media reports about police misconduct or brutality, or when they hear about negative experiences that friends, family, or acquaintances may have had with the police, they may form a biased view that then informs their willingness to call law enforcement or to cooperate with officers during an encounter.

These possibilities are more likely among Blacks and other racial and ethnic minorities. Research has shown that these groups express less favorable assessments of the police when the focus is on the handling of crime cases (Eith & Durose, 2011) and are more likely to question police legitimacy; they also are more likely to believe that their neighborhoods are excessively subject to coercive policing and receive insufficient proactive policing (Brunson, 2007; Brunson & Miller, 2006; Carr et al., 2007; Gabbidon et al., 2011; Jones-Brown, 2000, 2007; Rios, 2011;

Solis et al., 2009; Stewart, 2007; Warren, 2011; White & Fradella, 2016). The end result is that even if the police act professionally and in a friendly and courteous manner, Blacks and other minority groups may be more likely to perceive officer demeanor and actions as discriminatory; reliance on cognitive shortcuts, or “fast” thinking, may further cement this view during interactions. In turn, that can contribute to a vicious cycle of mutual misunderstanding and interactions that increase the likelihood that force will be used.

### c. How Officer and Citizen Biases May Interact and Contribute to Use of Force

Scholars have emphasized that police-citizen encounters are inherently situational (Bolger, 2015; Braga et al., 2014; Covington et al., 2014; Klinger, 1995; Paoline & Terrill, 2011). White (2016), for example, has highlighted that these encounters involve stages and decisionmaking points that consist of actions and reactions by both parties in what amounts to a transactional interaction akin to a game of chess (p. 228). In such a context, the biases that each party brings to interactions can shape the exchanges and eventual outcome (Dovidio et al., 2002).

From this perspective, extant literature suggests the possibility that the police and Blacks, as well as other racial and ethnic minorities, may work from biases that greatly increase the likelihood that force may be needed and that unnecessary, excessive, or deadly force will result. A simple scenario illustrates this possibility: An officer unconsciously assumes that a young Black male, pulled over for running a red light, is dangerous. The officer approaches the young man carefully and speaks to him briskly and in a commanding, borderline disrespectful voice. The young man assumes that the officer will be biased against him and interprets the officer’s demeanor and tone as highly disrespectful. In turn, he refuses to respond directly to the officer’s command and, at the same time, challenges the officer by asking for an explanation for the stop. The officer’s biased view toward the young Black man is confirmed and both reinforces and amplifies the officer’s rapid-fire assessment that the situation may spiral out of control. Such an exchange might well result in an officer exercising what could be viewed as appropriate

discretion in using force to control the situation. It also might trigger him or her to use force when it was not necessary and, moreover, to rely on excessive or deadly force.

From an ecological perspective, such interactions are more likely in communities where distrust of the police is greater. They are more likely, too, in places where the police view entire communities as dangerous places and the residents within them as presenting a high risk of being violent (see, generally, Alpert & MacDonald, 2001; Eitle et al., 2014; Klinger et al., 2016; Mears et al., 2017; Reisig, 2010; Terrill & Reisig, 2003).

#### d. How Bias in Police-Citizen Encounters May Adversely Affect Future Use of Force

Many accounts of bias in use-of-force incidents emphasize the potential for racial or ethnic stereotypes to contribute to these incidents. These accounts draw attention to pre-existing bias. However, in incidents where no pre-existing bias exists, cognitive shortcuts that build on them cannot, by extension, occur. Even so, these incidents provide the grounds for subsequent biases that the police or citizens may hold. Encounters that citizens perceive to involve unfair or illegitimate actions by the police may affect how, at a later date, they interpret, or cognitively “frame,” police statements or actions, which in turn may affect how they respond to officers. Similarly, encounters in which citizens are defiant, disrespectful, or violent may engender officer biases that associate these actions with particular groups.

Put differently, in efforts to understand the role of cognitive shortcuts in System 1, “fast” thinking, police-citizen encounters, it is important to understand the factors that give rise to these shortcuts in the first place. For example, Brunson (2007) has highlighted the ways that young Black men accumulate direct and vicarious adverse experiences with the police, which in turn can contribute to how they interpret and act in future police encounters (see, generally, Carr et al., 2007; Jones-Brown, 2000, 2007; Warren, 2011; White & Fradella, 2016). It is, of course, possible for police officers to accumulate direct or vicarious adverse encounters with racial and ethnic minorities. These experiences then set the stage for “fast” thinking that relies on cognitive

shortcuts that themselves build on assumptions about how much a given group—citizens or officers—can be trusted and thus how much cooperation should be offered.

e. Factors that May Amplify Bias Effects and Contribute to Use of Force

There is, finally, the potential for certain factors to amplify the salience of racial bias during police-citizen encounters, especially those that rely on “fast” thinking. One illustration of this possibility can be seen in officer training. Many accounts of police officer use of force emphasize the importance of training to improve ways that officers interpret, navigate, and control interactions with citizens, especially interactions that hold the potential to become dangerous (Covington et al., 2014; Eitle et al., 2014; Engel & Smith, 2009; Epp et al., 2016; Jackson et al., 2013; Kahn et al., 2017; Lum & Nagin, 2017; Nix & Wolfe, 2016; Paoline & Terrill, 2007, 2011). To illustrate, Correll et al. (2014) have highlighted that trainings can help officers make better decisions when they are fatigued or in fear for their own or others’ lives.

The absence of training that addresses these conditions increases the likelihood that officers will rely on cognitive shortcuts that may not lead to ideal resolution of potential conflict during encounters (Sim et al., 2013). They may be more likely, for example, to be affected by perceptual distortions, which can include visual or auditory or affect perceptions of how much time passes during an encounter (Engel & Smith, 2009; Klinger & Brunson, 2009). In addition, officer reaction time may be slower, especially in situations with individuals thought to be armed with a gun or other weapon (Blair et al., 2011). Such conditions increase dependency on cognitive shortcuts that build on biases about particular groups. They create the equivalent of an emergency room atmosphere, one in which the surgeon—or, in this case, officers—rely on rapid assessment. Without training, incorrect assessments and inappropriate, as well as potentially harmful, actions become more likely, resulting in more use of unnecessary or excessive force.

The importance of training extends beyond officers. Citizens are unlikely to have extensive experience or training in negotiating interactions with the police, much less ones involving tense

situations and the potential for violence. Accordingly, effective officer training assumes even greater salience given that officers may have the greatest influence on how an interaction with citizens unfolds. Put differently, training may enable officers to control their decisionmaking better and to take steps that help citizens respond more appropriately and safely.

A second example involves police agency culture (Alpert & MacDonald, 2001; Lum & Nagin, 2017; Skogan & Frydl, 2004; Skolnick, 1999; Terrill & Paoline, 2017; Tyler, 2004; White & Fradella, 2016; Zimring, 2017). Agencies that are more professional, emphasize ongoing training, take cultural awareness seriously, monitor and take steps to reduce use of force, and so on, may be more likely both to be aware of bias and to take steps to reduce its influence. In a study of law enforcement agencies, for example, Alpert and MacDonald (2001) surmised that “agencies with higher levels of accountability discourage officers from using force” (p. 407). By contrast, agencies that operate with a less professional emphasis, permit a racist culture to exist, or have few accountability mechanisms may cause more incidents in which force becomes necessary or in which excessive or avoidable deadly force occurs.

In addition, ecological conditions may contribute to police and citizen biases and to the salience of these biases in shaping how each party acts during encounters (Barnum & Miller, 2014; Carr et al., 2007; King et al., 2009; Sampson, 2009; Terrill & Reisig, 2003). Racial tensions between certain communities and law enforcement agencies illustrate this possibility. Residents in these communities typically will hold more cynical views about the police and their motivations. Conversely, officers are more likely to perceive contact in such communities as entailing substantial risk to themselves or others. In each instance, there may be an empirical basis for the perception. However, by guiding interpretations that citizens and officers adopt during encounters, the perception engenders a vicious cycle. Each party interprets the other in hostile manner, and any hostility from either party serves to confirm for the other that their “frame,” or view, is correct. In short, confirmation bias built on racial bias or biased views about the police begets more confirmation bias. A “perfect storm” then ensues, one in which individual biases are amplified by agency culture and practices and by the mistrust between law

enforcement and particular communities.

## 5. Conclusion

Increased concern about police use of force has led to considerable scholarship aimed at understanding the factors that give rise to it and, in particular, to unnecessary, avoidable, excessive, or deadly use-of-force incidents. Particular concern exists about actual or potential racial disparities in such incidents and what can be done to reduce them. Our central contention is that a focus on cognitive shortcuts—as well as the bias that officers *and* citizens draw on during encounters—can contribute to efforts to advance efforts to understand and reduce unnecessary, excessive, or deadly use-of-force incidents.

Drawing on advances in research on cognition, we argued that in police-citizen encounters, both the police and citizens typically must and do rely on cognitive “shortcuts,” or heuristics, to interpret each others’ actions. Such shortcuts are a necessity when individuals must make rapid, spur-of-the-moment decisions and when fear creates a further impetus to take decisive action. When grounded in accurate interpretations and assessments, the shortcuts can be helpful. When, however, grounded in biases about particular groups, they can be harmful and contribute to the very outcome, use of force, that officers and citizens alike typically seek to avoid.

There is a need for greater research aimed at understanding the role of cognitive shortcuts in police-citizen encounters and how to improve policy. Recent scholarship illustrates the opportunities for such research. Desmond et al. (2016), for example, found that Milwaukee residents, especially those in predominantly Black neighborhoods, were less likely to report crime for more than a year following the first news coverage of the 2004 police beating of Frank Jude, an unarmed Black man. For scholars, the potential for such views to decay slowly stands of interest in its own right. What conditions, for example, are required to activate, sustain, amplify, or alter citizens’ views of the police? In this instance, Black residents responded to a highly publicized incident by assuming, it appears, that officers would respond to a call for help

in a way that would harm residents. Whether correct or not, this belief could affect how citizens who do call for help interact with the police. They might, for example, act in an ambivalent manner, which could activate racial bias in officers (see, generally, Legewie, 2016). A vicious cycle then can ensue that is aided and abetted by officers' and citizens' reliance on cognitive shortcuts.

Studies thus are needed of the views that police and citizens alike hold of each other and how these views may influence interactions. At the same time, studies are needed of how these high-profile incidents may create or activate biases during police-citizen encounters. The study of racial bias is complicated (Klinger, 2004; Mears et al., 2016; Skogan & Frydl, 2004). For example, many studies lack the ability to control for the extent to which White citizens or Black citizens resist during an encounter, given that resistance is a key cause of use of force (Fridell, 2017). The end result can be claims about the prevalence of racial bias when in fact it may not be clear the extent to which bias was involved. Research that includes information about resistance can improve the understanding of racial bias in use of force incidents. At the same time, there is a need for studies that consider how the biases of officers and citizens alike contribute to use of force decisions and, indeed, define the nature of the bias in these decisions (Legewie, 2016).

For policymakers and law enforcement agencies, such research stands of interest because it signals the need to prevent incidents that activate citizen reluctance to call on or cooperate with the police. It also signals a need, when these incidents arise, to gauge citizen views and identify ways to improve community relations, especially when entrenched cultural differences and suspicion between the police and citizens exists. Sampson (2009) has written about the “durable tangle” of neighborhood inequality. The concept can be extended from inequality to police-citizen relations—the durable tangle of poor police and community relations may provide a foundation for ensuring that mutual suspicion and mistrust occur. In so doing, it can institutionalize police stereotypes of certain groups, including racial and ethnic minorities, as threats, as well as the stereotypes that these groups have of the police. Cognitive shortcuts then

can serve to institutionalize further these perceptions. They in turn translate into hostile interactions and a greater likelihood that the police will need to use force or will use it excessively. Greater research is needed to understand such feedback loops. It should focus on how feedback mechanisms operate in general. It should also focus in particular on how they arise and can be reduced among groups for which mutual police-citizen mistrust exists (Fridell & Lim, 2016; Klinger, 1995; Skogan & Frydl, 2004; Terrill, 2003, 2005; Terrill & Paoline, 2015).

One strategy for reducing the role of bias in police-citizen encounters where the use of force may occur is to reduce bias in general (Baron & Banaji, 2006; Lai et al., 2013). That includes citizens as well as police (Dovidio et al., 2002). For many citizens, their impressions of the police come from traffic violations (Mears & Lindsey, 2016). Efforts to improve these interactions and citizens' views of the police as fair may improve citizen compliance in situations where the police need immediate and active citizen compliance. Recently, Lum and Nagin (2017) argued for the importance of expanding police performance measures by conducting surveys of citizens to gauge their views of and satisfaction with the police (see also Dunham & Petersen, 2017). Efforts to improve interactions with citizens in traffic encounters and everyday contact may hold the potential for altering perceptions about the police as unfair or discriminatory.

Officer trainings that target System 1 (fast) and System 2 (slow) thinking are another avenue that may help. "Fast" thinking occurs largely unconsciously. However, like any unconscious habit, how one responds in situations can be modified to some extent. Devine et al. (2012), for example, developed and then evaluated what they termed a "multifaceted prejudice habit-breaking intervention" (p. 1267) and found that it reduced implicit race bias in subjects. Similarly, in Sim et al.'s (2013) study of how training may affect bias in the decision to shoot, the researchers found that when training shifts participants' attention away from the utility of racial cues to the utility of diagnostic object information (e.g., the presence or absence of a weapon), it is more likely to reduce racial bias (see also Peruche & Plant, 2006; Plant & Peruche, 2005). Even so, challenges exist. For example, Shelton et al. (2005) identified that an



individual's ability to detect prejudice or to reduce its influence in one's interaction with others can be limited. That possibility, when coupled with the pervasiveness of cognitive biases in general, and of implicit biases in particular, suggests that no "silver bullet" solution will improve officer and citizen decisionmaking in situations that demand quick thinking.

There is also the potential benefit of emphasizing "slow" thinking strategies that allow officers to be better prepared when approaching suspects or citizen encounters.<sup>3</sup> In some cases, when time permits, individuals resort to "fast" thinking even when they have sufficient time to rely on "slow" thinking. Training in ways to anticipate what may happen and how best to respond may improve "fast" thinking responses or even reduce the extent to which situations arise that require reliance on "fast" thinking. To illustrate, Kleider-Offutt et al. (2016) have suggested that improved officer decisionmaking in potentially lethal use-of-force incidents can be achieved through interventions, such as mindfulness training, that maximize attentional control (see, generally, Hall et al., 2016; Sadler et al., 2016).

Finally, still another strategy is for agencies to ensure that officers have a full arsenal of non-lethal responses at their disposal when interacting with the public. Sousa et al. (2010) showed, for example, in a randomized field-training experiment that officers who had Tasers at their disposal were more likely to use them and less likely to use firearms when suspects resisted arrest. Having a continuum of responses on which to draw and training in using them appropriately may help to reduce the potential for perceptual distortions that arise from perceived fear, and, in turn, to limit the influence of biases about the putative criminality or threat of racial and ethnic groups. Such training likely should be frequent, intensive, and reflect real-world conditions. As Correll et al. (2014) have emphasized, "to reduce bias in high-stakes situations, it may be important for police to train in situations that are similar to actual officer-involved shootings" (p. 211).

## **Endnotes**

<sup>1</sup> For a discussion of the wide range of cognitive biases that researchers have identified, see Kahneman (2011); for criminal justice examples, see Forst (2004) and Mears and Bacon (2009).

<sup>2</sup> A vigorous debate exists about the extent to which implicit bias can be reliably and accurately measured (see, e.g., Lai et al., 2013; Lane et al., 2007; Oswald et al., 2013). For the purposes here, however, bias is salient for police-citizen encounters whether conscious or not.

<sup>3</sup> We thank one of the anonymous reviewers for this suggestion.

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Figure 1. Cognitive Biases in Police and Citizen Encounters

