RUNNING HEAD: Addressing the Inappropriate Use of Force

Addressing the Inappropriate Use of Force by Police in the United States and Beyond:

A Behavioral and Social Science Perspective

Report of the Police Violence Commission

International Society for Research on Aggression

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Summary

Recent high-profile incidents involving the deadly application of force in the United States sparked worldwide protests and renewed scrutiny of police practices as well as relations between police officers and minoritized communities. In this report, we consider the *inappropriate use of force by police* from the perspective of behavioral and social science inquiry related to aggression, violence, and intergroup relations. We examine the inappropriate use of force by police in the context of research on modern policing as well as critical race theory and offer five recommendations suggested by contemporary theory and research. Our recommendations are aimed at policymakers, law enforcement administrators, and scholars and are as follows:

1. Implement public policies that can reduce inappropriate use of force directly and through the reduction of broader burdens on the routine activities of police officers.

2. For officers frequently engaged in use-of-force incidents, ensure that best-practice, evidence-based treatments are available and required.

3. Improve and increase the quality and delivery of noncoercive conflict resolution training for all officers, along with police administrative policies and supervision that support alternatives to the use of force, both while scaling back the militarization of police departments.

4. Continue the development and evaluation of multi-component interventions for police departments, but ensure they incorporate evidence-based, field-tested components.

5. Expand research in the behavioral and social sciences aimed at understanding and managing use-of-force by police and reducing its disproportionate impact on minoritized communities, and expand funding for these lines of inquiry.

Introduction

Police use of force, and its disproportionate impact on members of racial/ethnic minoritized groups, is not a new phenomenon. Yet recent, very high-profile incidents in the United States – for example, the 2020 police killings of George Floyd (Minneapolis, MN) and Breonna Taylor (Louisville, KY), among others - sparked significant outcry and mass protests. These incidents renewed intense focus on police practices and fragile relations between police officers and the people of color with whom they interact and forced debates about the role and funding of police to the forefront of the 2020 American presidential election. Data from around the world indicate that police use force disproportionately against racial and religious minoritized groups along with immigrant communities, yet the impact and disproportionality are clearly most intense in the United States with respect to Black communities (Cheatham & Maizland, 2020).

Although there are a number of published behavioral and social science studies investigating various aspects of police use of force and the manner in which it is administered especially towards minoritized groups, efforts to leverage these findings towards reducing inappropriate use of force have been mixed. As the focus on violent police encounters with the public in general and people of color in particular grows worldwide – inciting, in the United States at least, calls to "defund" the police – it appears to be time for a reckoning with the behavioral and social science literature relevant to this issue. The goals of this report commissioned by the International Society for Research on Aggression (ISRA) are twofold: First, to offer a summary of the existing scientific research aimed at understanding police inappropriate use of force and its disproportionate impact on people of color from a behavioral-social science perspective; and second, to offer a theoretically and empirically grounded set of recommendations to advance this work.

Defining the Inappropriate Use of Force by Police

Police use of force has been defined broadly as "effort required by police to compel compliance by an unwilling subject" (International Association of the Chiefs of Police, 2001) and measured in surveys and reports by the following examples: threatening to use force; handcuffing; pushing, grabbing, hitting, or kicking; using chemical or pepper spray; using an electroshock weapon; or pointing a gun. If police use of force is intended primarily to obtain compliance, it thus might not be considered to be aggressive or violent by standard operational definitions of those constructs. For example, Allen and Anderson (2017) define aggression as "behavior that is intended to harm another person who is motivated to avoid that harm" and noted that violence represents an extreme form of aggression intended to result in serious physical harm. Although the typical use of force incident might not result in actual physical harm, and the officer involved might not intend for any injury to occur, it certainly might be the case that the subject (or victim) of force incidents might perceive otherwise. This view might also be held by bystanders. Thus, while we acknowledge that police use of force could be construed as "aggression," "violence," or even "brutality" (i.e., ruthless or cruel application of aggressive force), and despite the fact that our primary organizational identity involves research on aggression, we deliberately avoid the use of those terms to refer to the use of force by police in this document.

Force is most certainly considered a key tool of policing by law enforcement agencies. Per the National Police Foundation, use of force by police should be reserved for situations that require officers to establish control, protect themselves or others, or make an arrest. Per the National Institute of Justice (2009), police departments should conceptualize and implement use of force along a continuum, ranging from the mere presence of an officer to verbal commands

and "less-lethal" methods, to the application of deadly force. A recent review of police use of

force practices by the US Commission on Civil Rights (2018) affirmed the goal of reducing use-

of-force incidents and promoting alternatives, while acknowledging a role for use of force in

modern law enforcement. Despite the relatively low proportion of interactions between police

officers and civilians involving police use of force and the putative legality and utility of use of

force (less than 2% per Davis, Whyde, & Langton, 2018), it has been implemented with

increasing lethality and has had a persistent disproportionate impact on communities of color

(especially Black and Hispanic communities) and other minoritized groups (e.g., Arab and

Turkish communities in Germany; North African communities in France) – in the United States

and worldwide (Buehler, 2017; Schwartz & Jahn, 2020). As such, the use of force by police is

cause for legitimate consternation.

At the same time, the term "use of force" clearly is insufficient for describing the

excessive or extreme manifestations of this approved law enforcement tactic that prompted the

present ISRA commission and report. It might be necessary to utilize force in certain situations.

Going further, although "excessive use of force" might be a more effective term, it presupposes

that the decision to use force might uniformly be appropriate and that the problem lies with how

much force is used. We reject this construction and instead refer descriptively in this document

to *"the inappropriate use of force by police."* This term acknowledges that the police can "go

too far" in the application of force as well as the fact that, categorically, certain situations should

never permit the use of force. A recent example from the city of Rochester, NY, illustrates this

well. Police were called to restrain a 9-year-old girl experiencing an emotional crisis. She was

handcuffed and moved to the police vehicle, but when officers encountered difficulty placing her

into the vehicle, they used pepper spray (Ly & Levenson, 2021). Referring to *excessive use of*

force would imply that more modest use of force somewhere short of pepper spray would be

acceptable with a child; referring to *inappropriate use of force* would clarify that except in

extreme cases and/or with significant cautions the use of force against a child would be

unacceptable.

The Scope of the Problem

Although the 2020 incidents involving the killings of George Floyd and Breonna Taylor

took on particular salience, the issue of inappropriate use of force by police has been under study

in various ways for some time. In 2018, the US Bureau of Justice Statistics reported that about

30.2 million Americans experienced police-initiated contact during calendar year 2015 (Davis et

al., 2018). Of these individuals, 3.3% (about 996,000) indicated that police used force during

their most recent encounter. Of those 996,000 encounters involving force, only about 30%

perceived the use of force to be "necessary" whereas 48% perceived the use of force to be

"excessive." Targeted investigations by the US Department of Justice into several higher-profile

incidents of police use of force in recent years have substantiated claims of inappropriate force

towards Black Americans (USDOJ, 2015, 2016, 2017), and the United Nations (2017) confirmed

these findings with their own independent investigative review. A notable lack of consistent and

systematic reporting on use-of-force incidents in the US, and a consequent lack of any

centralized federal database (see Brunson, 2021; Goff & Kahn, 2012), has led to independent

efforts such as Mapping Police Violence (2018) to collate evidence in support of these claims.

Recent analyses of other archival data sources, such as the US Centers for Disease

Control's Web-Based Injury Statistics Query and Reporting System (WISQUARS) and the

National Vital Statistics System of the US National Center for Health Statistics, have offered

additional corroborating findings: Black men face the greatest likelihood of being killed by

police compared to Black women, as well as White and Hispanic men and women (Edwards et al., 2019), while Black youth are six times more likely and Hispanic youth three times more likely to be shot to death by police compared to White youth (Badolato et al., 2020; see also Nix, Campbell, Byers, & Alpert, 2017). Black people are also less likely to go to emergency rooms for care following media reports of law enforcement-related deaths of Blacks (Liu, Lim, Gould 2020); Black trauma patients suffering from violent injuries are more likely to be harassed by law enforcement during transport and in hospital settings under conditions of duress (Jacoby, Richmond, Holena, & Kaufman, 2017; Brunson & Wade 2019). That the inappropriate use of force by police disproportionately harms Black and other minoritized communities seems clear.

Theory and Research Related to the Inappropriate Use of Force by Police and Its Disproportionate Impact on Minoritized Populations

Police use of force in general, and inappropriate use of force in particular, rarely have been subject to detailed behavioral or social science inquiry as unique behaviors separate from the broader set of police practices (Goff & Kahn, 2012), although Terrill and colleagues have led the way with several studies (e.g., Paoline & Terrill, 2007; Terrill et al., 2018; Terrill & Reisig, 2003). Nevertheless, the extant research suggests that officers are likely subject to many of the same personal and social-contextual influences in their decisions to apply lethal and nonlethal force, appropriately or inappropriately, as others might be when engaging in aggression and violence, such as: anger and related emotional distress (Kleider, Parrott, & King, 2010), diminished self-control (Staller et al., 2019), being "triggered" or primed by carrying weapons (Ariel et al., 2019), and a lack of sensitivity to violence (Kirwil, 2015). Similarly, in contrast to the broad behavioral and social science literature on racial biases and disparities, and even the disproportionate involvement of individuals of color in the justice system, there are relatively

few studies on the disproportionate inappropriate use of force towards people of color. Recent

reviews of this literature revealed mixed findings: Though disproportionate impacts on people of

color are clear, causal factors are less so -- in part due to a variety of methodologies employed

and challenging confounds accruing from the interactions of officer race/ethnicity and civilian

race/ethnicity (Correll, Hudson, Guillermo, & Ma, 2014; Goff & Kahn, 2012; Martin & Kahn,

2020).

Theory and Research on Predictors of the Inappropriate Use of Force

Considering the individual, social, and political contexts of policing, no single theoretical

framework could reasonably account fully for the inappropriate use of force. Continuing the

parallel of considering research on aggressive behavior, aggression generally is multiply-

determined by personal, contextual, and societal factors, and the inappropriate use of force

should be no different. If anything, police use of force is perhaps even more complex from a

theoretical standpoint given policies (and laws) authorizing this behavior under certain

conditions and the onus placed on individual officers to determine when use of force is

warranted. In terms of person-level factors, over the years, theories on the individual

development and expression of aggressive and violent behavior have evolved from

understanding aggression as the product of basic drives, to learned behavior, to cognitive

evaluations and representations (Eron, 1994). Connecting the personal to the social-contextual

factors, contemporary theoretical frameworks such as the General Aggression Model and the

Cognitive-Ecological or Developmental-Ecological Models integrate a variety of personal

emotional and cognitive factors with key situational and socializing influences in explaining the

emergence and maintenance of aggression and the conditions under which violence is likely to

occur (Anderson & Bushman, 2002; Dodge, Pettit, & Bates, 2003; Guerra & Huesmann, 2004).

A recent review synthesized research articles from 2000-2019 and identified 19 psychological and sociological factors across 52 articles that have been shown to influence police officers' decisions to use force, including physiological arousal, suspect resistance, and various personality factors (Cojean et al., 2020). Yet focusing simply on the moment an officer decides to use force from an isolated perspective cannot account for the complexity of that phenomenon (Körner & Staller, 2020b; Staller & Körner, 2020a; Taylor, 2020). Research in the behavioral and social sciences has provided several explanations for underlying structures and factors that increase or decrease the likelihood that an officer will use force in a given encounter (Staller & Körner, 2019), or that force will be used inappropriately in a manner that exhibits disproportionality against individual members of minoritized groups (Dukes & Kahn, 2017).

Similar to neighborhood-based violence research, prevalence data on use-of-force incidents by police have shown that a limited number of officers are responsible for a large number of incidents (Brandl & Stroshine, 2013; Jetelina et al., 2017). Studies on a variety of personal or dispositional factors related to the inappropriate use of force by police suggest a number of possibilities to account for this finding. For example, ego depletion – a situational lack of self-control in the face of stress or provocation – has been shown to result in earlier use of force in the context of provocative citizen resistance (Staller et al., 2017; Staller, Müller, et al., 2019). Kleider and colleagues (2010) reported that officers with poorer working memory were more likely to shoot unarmed targets in an experimental task when they experienced high levels of negative affect. Police officers also tend to score higher than adults in other occupations on social dominance orientation (Haley & Sidanius, 2005), a key personality risk factor for aggressiveness also linked to the dehumanization of marginalized groups including Black/African-Americans (Costello & Hodson, 2009, 2011; Kteily et al., 2015). Further, self-

report survey data on US police officers' attitudes indicate that higher scores on the "warrior"

mindset (i.e., an emphasis on officer safety and crime-fighting as opposed to the "guardian"

mindset of protecting citizens and building community; Rahr & Rice, 2015; Stoughton, 2015,

2016) were associated with more positive attitudes towards excessive force and greater

prioritization of physical control (McLean et al., 2019). Also linked to attitudes, Marenin (2016)

observed that highlighting the dangers of police work was a major factor in the deadly use of

force.

Demographic factors including officer gender, education level, and years of experience

also have been linked to the use of force more generally. Women use less force than men

(Jaeckle et al., 2019). Interestingly, women use less empty hand force than male officers, but are

more likely to use intermediate weapons (Jetelina et al., 2017), which could be explained by

compensating for their relatively less upper-body, strength compared to their male counterparts

(Cojean et al., 2020). Concerning the mitigation of force, a recent study showed that experience

seems to be an important factor in seeing opportunities for force mitigation (Mangels et al.,

2020). A comparison of police experts and novices in their accounts on body-cam footage in

police-citizen encounters found that experts referred more to the broader pictures of the incident,

reporting more opportunities for force mitigation and de-escalation, whereas novices focused

their accounts more on physical control (Mangels et al., 2020). A higher education level of police

officers also has been shown to relate inversely to the level and frequency of the use of force

(Rydberg & Terrill, 2010; Vespucci, 2020).

Importantly, the role of weapons and increasing police militarization cannot be ignored.

The "weapons effect" on aggressive behavior is a well-known social psychological phenomenon

first identified in the 1960s through a classic laboratory experiment by Berkowitz and Le Page

(1967). In the experiment, subjects exposed to guns (a shotgun and a revolver) behaved

significantly more aggressively (i.e., by administering electric shocks to partners) in comparison

to subjects who were instead exposed to sports equipment (badminton racquets and a

shuttlecock). This fundamental effect – that weapons can serve as cognitive cues to aggression –

has been replicated numerous times (see Benjamin, Kepes, & Bushman, 2018). This research

suggests that merely by carrying guns, police officers are chronically primed to use force. The

fact that nations where police officers typically do not carry guns – and where citizens might be

less likely to carry guns as well -- report lower levels of police killings of civilians lends some

support to this proposition (Godin, 2020). Further, a recent experimental trial in London testing

the impact of open carrying by police of TASER (electroshock) devices found that police

officers outfitted with TASERs were significantly more likely to use force (48% increase; Ariel

et al., 2019). In that study, suspects also used greater force in the presence of TASERS, showing

that TASERS as aggressive cues make aggression more likely on both sides (Ariel et al., 2019).

The impact of the weapons effect on policing might be magnified by the increasing

militarization of police departments. According to Kraska (2007), police departments

increasingly have shown militarization through the implementation of an organizational

framework that emphasizes the use of force along with threats of violence as the most efficient

and effective means to solve problems. Militarization also includes the use of military power,

hardware, operations, and technology as "primary problem-solving tools" (Kraska, 2007, p. 3).

The impact of police militarization is most visible with respect to the acquisition and use of high-

grade weaponry (Clark, 2017). With more weapons – including larger and more powerful

weaponry and related equipment – available to prime weapons-related affect and cognition – it

might be predicted that the weapons effect on police during routine as well as high-intensity interactions with citizens would be greater.

Theory and Research on Predictors of the Disproportionate Use of Force against Minoritized Groups

Although models of aggressive and violent behavior are comprehensive in their descriptions of individual behavioral and social processes, they do not necessarily include important background or broader environmental, cultural, and historical forces that are relevant for considering the disproportionate impact of inappropriate use of force on populations of color or other minoritized groups. Broader social-cultural and ecological theories such as Ecological Systems Theory (Bronfenbrenner, 1979; Galtung, 1990) can account for ideologies, cultural values, and historical trends that shape the legality and societal management of police use of force. Historically, some of the first formal government sponsored law enforcement organizations in the US were slave patrols that were used to control enslaved Black populations and uphold the racialized social system that supported White supremacy (Cooper & Fullilove, 2020; Durr, 2015; Hadden, 2003). Although some activities of slave patrols persisted after slavery was abolished, during the Reconstruction Era, slave patrols morphed into publicly funded police departments (Byfield, 2019; Durr, 2015). Though detached from slavery, the emergence of the new law-enforcement agencies remained steeped in a racialized social system that permitted systemic unfair treatment of Black Americans (Cooper & Fullilove, 2020). Critical Race Theory (CRT; Delgado & Stefanic, 2001) provides important context regarding how racism is structurally and systemically embedded within US institutions, including law enforcement, which in turn, leads to race-based disparities in use of force (Moore et al., 2018). Studies in a CRT framework have identified the myriad ways, across contexts, that systemic racism impacts

the everyday lives of Black individuals (Bleich et al., 2019; Findling et al., 2019). Importantly, Social Identity Theory (Tajfel, Turner, Austin, & Worchel, 1979) provides a basis for understanding how racial and ethnic distinctions become salient and spark conflict. Further, a raft of social-psychological theories related to biased perceptions and stereotyping can account for officers' inappropriate use of force against people of color or other minoritized groups (Dukes & Kahn, 2017; Kahn & Martin, 2020).

Studies from different countries have shown repeatedly that policing strategies, along with multiple forms of police misconduct and inappropriate use of force, disproportionately affect people of color and minoritized groups (Abdul-Rahman, Grau, Klaus, & Singelnstein, 2020; Brunson & Miller, 2006; Brunson & Weitzer, 2009; Dukes & Kahn, 2017; Wertz et al., 2020). Authors posit that this behavior by police can be rooted in historical narratives and a racist belief structure, often perpetuated in the criminal justice system, that views Black men as "symbolic assailants" and/or inherently "criminal," "aggressive," "violent," or subhuman (e.g., Anderson, 1990; Bridges & Steen, 1998; Brunson & Miller, 2006; Holmes, 2000; Jackson, 1997; Jacobs & O'Brien, 1998; Kennedy, 1997; Smith & Holmes, 2003; Quillian & Pager, 2001). Recent studies have shown that this exacts a considerable mental and physical health toll on Black and other minoritized communities given the acute traumatizing nature of police interactions involving use of force and the chronically stressful experience of racially-biased policing (Bui, Coates, & Matthay, 2018; Obasogie & Newman, 2017; Smith Lee & Robinson, 2019).

As with aggressive behavior broadly and police use of force specifically, there are personal, social, and societal factors at play with respect to how the use of inappropriate force by police manifests disproportionately across minoritized groups. Decisions, implicit or otherwise,

to engage in racially biased and inappropriate use of force are the result of individual social-cognitive processes underlying attitudes and stereotypes that develop over time through experiences with peers, family, and the media (see Kahn & McMahon, 2015; Spencer, Charbonneau, & Glaser, 2016). Specifically, some police officers may hold explicitly biased beliefs about a racial/ethnic group and consciously draw on those beliefs when deciding to use force. Police officers' decisions to use force also might be influenced by implicit biases, beneath their conscious awareness, such as non-conscious negative stereotypes about a group's general personality traits or behavior (e.g., associating Black people with aggressive behavior), specific implicit stereotypes regarding crime and race (e.g., associating Black people with crime and criminal activity), as well as specific implicit stereotypic associations between people of color and weapons (Kahn & McMahon, 2015; Spencer, Charbonneau, & Glaser, 2016). These decisions might be sparked through social interactions between police officers and people of color that are impacted by conflicts based on social identity, with each perceiving the other as the representative of a hostile outgroup (see Brunson, 2021). Finally, police-community interactions occur on a societal backdrop of institutionalized and systemic racism that maintains and perpetuates the oppression of minoritized groups by the majority in power and creates antecedent conditions that increase the likelihood of racially/ethnically charged interactions between law enforcement and minoritized civilians.

Considering the context of police activities, with high-intensity situations that demand quick decisions in the face of distractions and multiple sources of stimuli, it is easy to see where both explicit and implicit racial biases (attitudes and stereotypes) can problematically influence decisions to utilize force against members of racially and ethnically minoritized groups. For example, studies show that police officers: perceive and stereotype Black individuals with darker

skin as more criminal (Eberhardt et al., 2004); perceive Black youth as older and more menacing

(Goff, Jackson, DiLeone, Culotta, & DiTomasso, 2014); use more force against people of color

(Black and Latinx individuals) earlier in interactions and more when met with resistance (Kahn,

Steele, McMahon, & Stewart, 2017); protect suspects who appear whiter by using less force

(Kahn, Goff, Lee, & Motamed, 2016); and use less respectful speech when interacting with

Black compared to White drivers (Voigt et al., 2017).

These biases are amplified by their relation to social identity – the particular social

groups with which actors identify and are perceived to be. According to social identity

theorizing, we automatically categorize people into ingroups (people similar to us, or perceived

to be similar on a given set of dimensions) and outgroups (people who are different from us).

Although this can happen whenever groups are formed, even in arbitrary groups, it can be

particularly salient in the context of well-established and immediately recognizable groups such

as those associated with race (e.g., people of color) and authority (e.g., police officers). In-

group/outgroup perceptions can be quite salient in the context of policing. For example, in

shooting simulations, Cox et al. (2014) found that officers made more incorrect decisions in

other-race neighborhoods (i.e., opposite race from the officer) than in same-race neighborhoods.

The social groups with which we identify influence our self-esteem. Thus, we naturally

tend to favor ingroups and hold outgroups in less regard. This leads to negative beliefs,

stereotypes, and treatment of the outgroup, referred to as *outgroup derogation.* Outgroup

derogation can appear especially pernicious when it manifests as the result of dehumanization –

an extreme form of bias in which outgroups are perceived as less than human. Goff and

colleagues found that the implicit dehumanization of Black males (associating them implicitly

with apes) by police officers predicted greater use of force against Black children (Goff et al., 2014).

Implicit and explicit biases that heretofore have influenced behavior in the "real world" are increasingly impactful in the cyberworld as well. The inappropriate and disproportionate use of force by police is not just physical – it also happens on social media. Take for example, "Stop and Frisk" policies in New York City. In 2013, the United States District Court for the Southern District of New York ruled that these practices were unconstitutional and directed the police to adopt new policies, which required more justification and documentation if a pedestrian is stopped. However, the "datafication" of the criminal justice system in New York City occurred as the police department increased resources and interest in the use of social media (e.g., Twitter, Facebook) to surveil *potential* violent and criminal perpetrators. Trottier calls this "social media policing" and argues this new strategy represents a new paradigm for profiling and preemptive policing (Trottier, 2012b). Yet without the nonverbal and contextual cues that frame face-to-face interactions, social media messages can be misconstrued. The increased use of technology by police more generally also has yielded "predictive policing," which relies on computerized algorithms to forecast likely physical areas or targets for, or perpetrators of, criminal behavior. This tactic has also raised serious concerns about race bias given that algorithms rely on prior arrest and crime incident data produced by disproportionate minority contact (see Lau, 2020). Thus, any racial/ethnic bias present in prior data will be amplified by the selective targeting of suspects. Ultimately the product of racial/ethnic bias in all of these cognitive and technological processes will be to increase the likelihood that an encounter between a police officer and a minoritized individual will involve the inappropriate use of force by the police officer.

Of course, these encounters occur in a broader social context. The wide-scale adoption of technology with the potential for racial/ethnic bias would represent an institutionalized or systemic form of racism extending beyond face-to-face interactions. Indeed, the current criminal justice system in the US as a whole, and the laws that uphold it, have been shown to manifest systemic racism at various levels, ranging from policies governing street-level interactions between law enforcement and citizens that differ across majority-white and majority-minority communities, to how juvenile and criminal cases are handled differently by the courts depending on skin color, to whether and how people of color compared to whites are able to re-enter society following periods of incarceration (Alexander, 2012; Middlemass, 2017; Muhammad, 2019). As reports from around the world show, systemic bias against minoritized groups is not limited to the borders of the US. The systemic racism that exists in criminal justice systems presumably shapes individual-level implicit racial biases and reinforces explicit racial biases, and efforts to understand the impact of systemic racism on the criminal justice system will require acknowledgement of how individual racial biases are connected to structural power inequalities rooted in a racialized social system (Feagin & Bennefield, 2014). As noted briefly earlier, studies across multiple domains of society – health, education, housing, etc. – have shown the pernicious impact of systemic racism on the safety and well-being of Black Americans as well as other ethnic minoritized groups in the US and around the world. In the aggregate, these repeated examples of racism across domains create the broad backdrop of crystallized racism in both institutionalized and systemic forms.

Recommendations

We recognize that the inappropriate use of force by police has been implemented in a manner mirroring aggression and violence, with disproportionate impacts on racial and ethnic

minorities and particularly Black people. Although these impacts are visible around the world, the problem is especially stark in the US (Cheatham & Maizland, 2020). Research conducted with police, though sparse relative to the wider aggression literature, suggests that police are susceptible to many of the same risk factors as the general population in terms of escalation to the inappropriate use of force. We also recognize that police use of force generally and against minoritized groups specifically exists in a broader sociocultural context that ties policing to state power, permits the application of force by police through policy and legal precedent, and ascribes significant credibility and responsibility to police with respect to maintaining social order, and reflects longstanding ideologies and values that support racism and other forms of bias and discrimination against minoritized communities.

Given that the use of force by police is maintained by influences at multiple levels, efforts to reduce and ideally eliminate use of force also should occur at multiple levels. Of course, any individual or broader social interventions involving the police will involve multiple parties representing a number of different sectors, and represent decisions made at the level of public policy. We now turn to a set of recommendations for intervention based on our survey of the behavioral and social science literature.

Recommendation 1: Implement public policies that can reduce the inappropriate use of force directly and through the reduction of broader burdens on the routine activities of police officers.

Burgeoning research discussing legal endogeneity theory suggests that inappropriate use of force does not result only from biased police officers but is driven by legal doctrine that is structured to allow police perspectives on what counts as "reasonable use of force" which in turn, shapes judicial determinations of whether particular applications of force violate the constitution

(Obasogie, 2020). There is a need for continued focus on how use of force is reinforced by existing policies. In recent months, there have been public calls in the US to "defund" the police – meaning, in practice, to reallocate public funding for police and public services so as to increase investment in community-based systems of care, support, and wellness for disinvested communities along with developing alternative crisis response models. We agree that it is time for significant and substantive changes to policing that can only be manifested through political and legislative action. These calls come in tandem with recent efforts to reform policing as well with respect to the use of force on a more granular level – for example, the State of New Jersey recently instituted a broad array of major reforms hailed by the press as "the nation's most ambitious" (Berman, 2020). These include a "first in the nation" portal for departments to document use-of-force incidents, a requirement for officers to use force only as a last resort, a ban on firing guns at vehicles, and a requirement for officers to intervene if a fellow officer is observed to be using excessive force. Policy violations might lead to counseling, training, termination, or criminal prosecution. Along the same policy lines, ending "qualified immunity" for police as a legal shield against litigation (as New York City recently did, in April, 2021), increasing the investigative and prosecutorial power of civilian review boards, and proactively funding and offering a greater array of social services to reduce the burden on police of handling mental health crises and related issues should all promote the reduction of inappropriate use-of-force incidents.

Recommendation 2: For officers engaged in use-of-force incidents, ensure that best-practice, evidence-based treatments are available and required.

Beyond policy-level interventions, what other reforms might emanate from the existing relevant behavioral and social science? Some use-of-force incidents are likely to stem from

individual officers who display problematic levels of anger dysregulation, histories of violence, etc. In fact, some research suggests that only a small proportion of officers in a given department are responsible for the majority of use-of-force incidents, and that these officers differ systematically from their peers in meaningful ways (Brandl & Stroshine, 2013). Effective individual interventions are available for adults who show persistently aggressive and violent behavior emanating from dysregulated anger, such as the basic cognitive-behavioral therapeutic approach (e.g., Novaco, 1975) that has been validated through decades of empirical study and meta-analysis (Henwood, Chou, & Browne, 2015; Lee & DiGiuseppe, 2018). Then again, in the interest of public safety, it might be more effective to remove problem officers and provide them with vocationally-oriented rehabilitation to transition them into alternative careers. Regulations requiring officers to wear operational body cameras during their shifts are helpful, given their monitoring capacity, but research on the impact of using these cameras on use-of-force incidents is still in its infancy – though research so far is mixed, some preliminary findings have been encouraging (Braga, Barao, McDevitt, & Zimmerman, 2018).

Recommendation 3: Improve and increase the quality and delivery of noncoercive conflict resolution training for all officers, along with police administrative policies and supervision that support alternatives to the use of force, both while scaling back the militarization of police departments.

Along with psychological and physical (body camera) interventions, improved training focused on the application of noncoercive conflict resolution also is warranted – yet studies so far indicate a need for additional research on the behavioral transfer of training for noncoercive conflict resolution skills (Todak & March, 2021). Research also indicates that the selection and performance of the police trainers is an essential aspect in delivering police training programs

which affect the behavioral outcome of officers attending such programs (Wolfe et al., 2020). As such, selecting trainers appropriately via best-practice scientifically-based guidelines and developing them throughout their career is essential for police institutions tasking trainers with educating and training professional conflict managers (Staller & Körner, 2020b). Available data also show that strict policies on the use of force (Prenzler et al., 2013; Terrill & III, 2016), accuracy of dispatch information (Johnson et al., 2018), and supervision and a well-established hierarchy (Lee & Vaughn, 2010) are critical to reduce police officers' inappropriate use of force. Unwinding the increased militarization of police departments also might service to reduce the use of force by rendering the weapons effect less salient in everyday interactions between officers and civilians.

Recommendation 4: Continue the development and evaluation of multi-component interventions for entire police departments, but ensure they incorporate evidence-based, field-tested components.

Along with policy-oriented and individually-focused recommendations detailed above, it is important to emphasize that many police departments might be in need of multiple new intervention approaches simultaneously. Larger-scale interventions have been attempted at the level of entire police departments, most recently and publicly in selected urban communities of the US. For example, the recently-completed National Initiative for Building Community Trust and Justice was implemented in six cities in the US (Birmingham, AL; Fort Worth, TX; Gary, IN; Minneapolis, MN; Pittsburgh, PA; and Stockton, CA). This initiative included components targeting the reduction of bias, the enhancement of procedural justice, revamped departmental policies and practices, and reconciliation meetings between officers and the community members they serve (Lawrence, La Vigne, Jannetta, & Fontaine, 2019). Importantly, the components

comprising this effort were by and large unproven with respect to reducing use of force and especially when delivered in concert. For instance, even tightly-controlled experimental studies of interventions to produce immediate or short-term effects on implicit race bias have yielded mixed results at best (Lai et al., 2014; but newer theorizing might yield better efforts, Amodio & Swencionis, 2018), and there are no implicit bias training interventions that have yielded long-term effects. Although perceived legitimacy of the police generally links to better outcomes for communities, the research on increasing perceived legitimacy through intervention is sparse (but growing; see Wood, Tyler, & Papachristos, 2020). Not surprisingly, although some positive impacts were observed, the program as a whole yielded a mixed bag of outcomes. Notably, the officers associated with the death of George Floyd were part of the department in Minneapolis that was engaged in the program. Thus it will be critical to determine through careful evaluation research the impact of larger-scale implementation of multi-component interventions so that these more comprehensive "packages" can be recommended at scale.

Recommendation 5: Expand research in the behavioral and social sciences aimed at understanding and managing use-of-force by police and reducing its disproportionate impact on minoritized communities, and expand funding for these lines of inquiry.

On the societal level, we are at a time of great potential for change. We believe that improvements in racially/ethnically biased policing are most likely to be sustained in the context of the reduction and elimination of systemic and institutionalized racism and other bias against minoritized groups. Individualized attempts to modify problematic racial/ethnic biases and attitudes might not be very effective, but social movements are. As Sawyer and Gupta (2018) recently discovered, the mere presence and persistence of the Black Lives Matter movement significantly reduced racial biases among Americans from 2009 to 2016. As the events of 2020

around the globe demonstrated, high-profile incidents of police killings sparked massive social unrest. Yet the behavioral and social sciences have not kept up with this pace of change – although this research is informative for understanding some of the nuances of how inappropriate police use of force can be understood as aggression and violence, we do not yet have a strong literature base for controlling, monitoring, and reducing it. We urge those interested scientists who are well-versed in studying the causes, correlates, and consequences of aggression and violence to find ways to engage their local communities and law enforcement to stake out new collaborative ground for studying the expression, management, and reduction of police use of force and especially the inappropriate use of force. These efforts should include increasing the literature on the relationship between violent actions by police and use of force policies, which will help to shift the focus from the individual actions of police and citizens to a more holistic assessment of how certain policy preferences put police in the position to utilize inappropriate force (Obasogie, 2020; Obasogie & Newman, 2017). Further, prior discourse on police use of force has been framed largely from a legal or moral standpoint, but future researchers are encouraged to utilize a public health framing to describe the inappropriate use of force by police as a public health issue with pervasive health impacts for minoritized individuals and marginalized communities (Obasogie & Newman, 2017).

We challenge scientists whose work involves behaviors and outcomes impacted by systemic racism to consider the ways in which their efforts can work to dismantle the institutional and societal structures that maintain systemic racism and in turn the inappropriate use of force by police. In support of these recommendations, we note the urgency of ensuring that funding entities in the public and private sectors make support available for these efforts. Critical and substantive questions in this arena stand open and ready to be addressed through

high-level and intensive efforts that will require significant funding. We encourage funding

agencies to convene panels of content experts to aid in formulating agendas for targeted grant-

making in this arena, and assert that only through such large-scale efforts will the field develop

the scientific basis for improving public safety and security while reducing the inappropriate use

of force by police.

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