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Assessing Public Perceptions of Police Use-of-Force: Legal Reasonableness and Community Standards

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ABSTRACT

How do public expectations of police use-of-force align with the strict professional and legal guidelines under which police officers train and operate? This is a largely unexamined but salient question in the use-of-force literature and is important given the ongoing public discourse regarding police use-of-force, community standards, and perceived gaps between the two. This study focuses on two main research questions: Are substantial portions of the public predisposed to disapprove of legally reasonable police use-of-force? If so, what are the principal correlates of those disapproving attitudes? We analyze responses ($n = 20,781$) to General Social Survey (GSS) questions from 1990 through 2018 entailing police use-of-force scenarios that are *prima facie* legally reasonable. We find a substantial proportion of GSS respondents have expressed their disapproval of legally reasonable, justifiable police uses-of-force over the entire period, and such disapproval has increased over time. Causes and policy implications of this misalignment are discussed.

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Introduction

Due to high-profile police use-of-force incidents in the United States over the past several years, American police have come under intense public and government scrutiny (Shjarbak, Pyrooz, Wolfe, & Decker, 2017). Despite police use-of-force being extremely rare (Eith & Durose, 2011; Pate & Friddell, 1993), and excessive force comprising just a small proportion of that, well-publicized use-of-force events have evoked widespread community and professional concern (Adams, 1999; Alpert & Dunham, 2004; Klinger & Brunson, 2009).

One result of this increased scrutiny is an intensification of effort to understand the circumstances in which police tend to resort to the use of physical force (Schuck & Rabe-Hemp, 2007; Silver & Pickett, 2015). The resulting research has been presented primarily in a manner intended to assist practitioners and policy makers in modifying police practices to reduce the frequency of use-of-force incidents. The advent and now widespread use of Crisis Intervention Team (CIT) training programs – where officers learn how to respond to situations involving people with mental illness who are

in crisis – and the incorporation of such training in police academy curricula reflect this interest in reducing the likelihood of police resorting to the use of physical force in police/citizen encounters. Yet, the police remain the state's primary agent of coercive force, and the police are often called because someone present at the scene believes that coercive force may be necessary to resolve a problematic situation (Herbert, 2006). Officers are trained and expected to use a reasonable amount of physical force required to arrest individuals in accord with the prevailing circumstances. Moreover, police officers are permitted to protect themselves and others from harm with the use of reasonable force when necessary (Thompson, 2015).

A largely unexamined but salient question in the use-of-force literature is this: What if public expectations regarding police use of reasonable force are ill-informed? Is there evidence indicating that some portion of the public entertains unreasonable expectations regarding police use-of-force? More specifically, does a noteworthy portion of the public find fault with police use-of-force actions that are legally reasonable, given the strict professional standards, training, and legal guidelines under which police officers operate? This study explores the gap between the legally reasonable standards that officers operate within, and public expectations of police use-of-force.

An examination of General Social Survey (GSS) data regarding police use-of-force is presented to delve into this largely unexplored question. One particularly relevant question regularly included in the GSS over several decades is this: "Are there any situations you can imagine in which you would approve of a policeman striking an adult male citizen?" It is unreasonable to expect that a police officer would *never* find it necessary to strike an adult male citizen in the course of their work. Arresting criminal suspects can become a violent undertaking in a range of circumstances such as breaking up bar fights, responding to domestic violence calls, handling drunk and disorderly calls, making drug arrests, defending themselves from assault, and a variety of other commonly encountered situations. Indeed, the FBI reports that in 2016 alone officers were assaulted at a rate of 9.8 per 100 sworn officers (FBI, 2017). Injuries requiring emergency room visits among US police officers occur at a yearly rate of 635 per 10,000 officers, compared to a non-officer rate of 213 per 10,000. Assaults are the single most significant driver, responsible for 35% of those officer injuries (Tiesman, Gwilliam, Konda, Rojek, & Marsh, 2018).

Despite this stark reality, an astonishing 34% of respondents who provided an answer to the above question in the 2018 iteration of the GSS answered "no." That is, they indicated they could not imagine *any* situation in which they would approve of a policeman striking an adult male citizen. What is particularly noteworthy is the clear upward trend in the "no" response to this question since it was first asked in 1973, as illustrated in Figure 1.

Figure 1 depicts respondents' declining support over time for a general question regarding police use-of-force, but the GSS includes questions with more contexts as well. For instance, are officers ever justified in striking an escaping subject, or striking a citizen who is attacking the officer? These questions and others are examined in much more detail later, but for now, we immediately see that legally reasonable hypothetical scenarios of police use-of-force have seen substantially weakened public support over the decades of GSS administration (Figure 2).

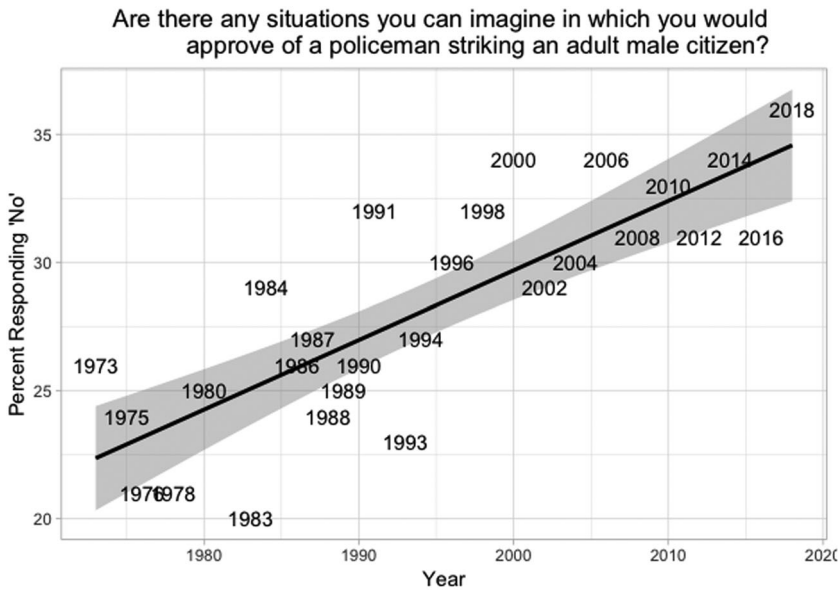


Figure 1. Percent of Respondents Responding “No” to the GSS question: Are there any situations you can imagine in which you would approve of a policeman striking an adult male citizen?

This cursory examination of GSS longitudinal data indicates a sizeable portion of the American public is wont to disapprove of police use-of-force even when such action may be legally reasonable and in full accord with police professional training. Of course, while this simple approve/disapprove format may overstate or understate respondents’ actual views on this matter (Cullen, Fisher, & Applegate, 2000), the importance of this observation is substantial.

Mismatched viewpoints regarding use-of-force incidents can lead to serious tensions between and among the police, their departments, and the communities they serve (Alpert & Dunham, 2004; Alpert & Smith, 1994). This discrepancy is deeply concerning during the current times of heightened racial and ethnic tensions. Mutual trust between the police and the public is essential for maintaining ongoing collaboration and cooperation between law enforcement and the public (Moon & Zager, 2007). While much of the police-community trust literature focuses on public trust in the police, understanding what affects police trust in the public is just as vital since the police-community relationship is reciprocal and interactive (Bottoms & Tankebe, 2012; Mourtgos, Mayer, Wise, & O’Rourke, 2019; Sargeant, Murphy, & Madon, 2018).

Public perceptions that diverge substantially from legally reasonable standards applied to police conduct have potentially adverse consequences for both police legitimacy and the promotion of procedural justice. The President’s Task Force on 21st Century Policing (2015) recognized legitimacy as one of the key pillars of effective policing, and viewed procedural justice as being central to creating and maintaining that legitimacy. Police legitimacy is undoubtedly crucial; people who believe that the police are legitimate are more likely to follow the law(s), comply with police, cooperate with the police in prosecuting criminal cases, and accept police decisions (Worden & McLean, 2014). It is commonly recognized that the “key antecedent of legitimacy is

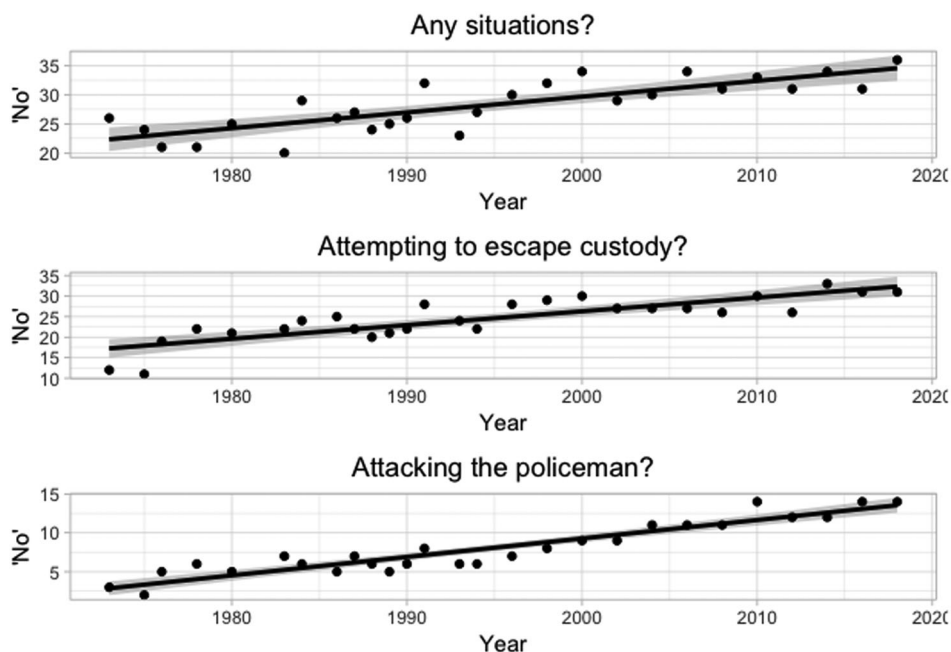


Figure 2. Percent of Respondents Responding “No” to Three Prima Facie Legally Reasonable Use-of-Force Scenarios.

the fairness of the procedures used by the police [i.e., procedural justice]” (Sunshine & Tyler, 2003, p. 513), and “[w]hen the actions [of police] seem to be arbitrary, racially disproportionate, or unjustified by the actual situation, they are more likely to be perceived by the public (and by the Department of Justice) as excessive” (Owens, Weisburd, Amendola, & Alpert, 2018, p. 44). In other words, evaluations of police use-of-force are often examined from the viewpoint of a prevailing community standard, not that of a purely legal viewpoint. What the literature on police legitimacy and procedural justice has left mostly unexamined, unfortunately, is whether those community standards are constructed in a manner that aligns to a marked degree with the professional training, standards, and legal guidelines under which police officers operate.

Complicating the analysis is recent work that recognizes that procedural justice applies not just to the actions of officers, but the actions of citizens as well. When citizens treat officers in procedurally just ways, officers are more likely to perceive members of the public as less threatening and are more willing to be mindful of procedural justice themselves (Pickett & Nix, 2019). When police officers believe they are employing use-of-force in a procedurally just manner, but endure criticism for their justified actions, they may come to believe they are being treated in a procedurally unjust manner. Where a sizeable gap between legal standards and prevailing community standards exists, there is a clear danger of a vicious cycle phenomenon arising, causing police/community mutual distrust to impair public safety at the detriment of the police and the public alike (Mourtgos et al., 2019).

If community standards and the professional and legal standards under which police operate are in misalignment, police officers are placed in an untenable position.

To which standard should police departments and police officers hold themselves? To complicate the matter of community standards even further, the processes in place for the review of police use-of-force actions are not uniform across local jurisdictions or demographic and cultural sub-populations. That is, the expectations of different audiences (i.e., racial/ethnic and partisan political groups) may conflict (Alpert & Smith, 1994; Roche & Roux, 2017), potentially producing an inconsistent community standard to abide by for police officers and agencies.

The preceding discussion suggests why the concept of *reasonable force* is so difficult to define in practice (Adams, 1999). Judgments about reasonable force are inescapably subjective (Alpert & Smith, 1994), and are likely influenced by personal history, global beliefs about police, and other psychological and sociological factors unrelated to the facts of the case. One of the main elements of police legitimacy is the judgment that police policies and actions comport with established legal rules (Beetham, 1991; Bottoms & Tankebe, 2012; Gilley, 2006; Nivette & Eisner, 2013; Tankebe, 2013). It is therefore essential to ascertain what is considered reasonable under the law and common law precedent in disputed cases, not necessarily what may be deemed reasonable in the court of public opinion.

Of course, examining how members of the public assess *legally* reasonable use-of-force actions does not resolve the possible community standard versus legal standard tension described above. In an exploratory study such as this, however, the legal standard is the appropriate place to begin for an examination of lay citizen evaluations of police use-of-force. It is the standard that police are professionally trained to uphold, and by which prosecutors, juries, and courts of law ultimately judge police actions. If significant discrepancies exist between what is legally reasonable and what citizens believe is normatively reasonable, further research is warranted to understand more fully, and address more effectively, this gap in expectations. We return to this possible mismatch between legal reasonableness and community standards in the discussion section of this article. First, though, it is useful to examine the concept of legally reasonable force, and how it interacts with more subjective evaluations of reasonableness.

Reviewing legal standards of reasonable use of force by police

The most important legal consideration for police officers charged with excessive use-of-force is the U.S. Supreme Court case *Graham v. Connor* (1989). In *Graham*, the Court laid out a partial list of the factors to be considered in determining the legal reasonableness of police use-of-force situations. The court prescribed a three-part, non-exclusive test for assessing use-of-force reasonableness, "... including the severity of the crime at issue, whether the suspect poses an immediate threat to the safety of the officers or others, and whether he is actively resisting arrest or attempting to evade arrest by flight." Further, 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... 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” (*Graham v Connor*, 1989, p. 396-397).

In other words, under the *Graham* doctrine, an officer’s actions are judged in comparison to other similarly trained and experienced officers in the same situation, knowing what the actual officer knew at the time – not what circumstances the officer, or the public, learned after the fact. The perspective of a reasonable officer at the scene is a restatement of the legal doctrine that members of a profession must act with the skill and judgment commonly possessed by members of that profession (Engel & Smith, 2009).

While police are trained to endeavor to exhaust available alternatives to the use of physical force to the extent possible, under the *Graham* doctrine officers are not required to use less intrusive force if the use-of-force in question would be deemed reasonable under the Fourth Amendment (Thompson, 2015). The Ninth Circuit Court of Appeals has held that in many situations, “requiring officers to find and choose the least intrusive alternative would require them to exercise superhuman judgment” (*Scott v. Henrich*, 1994, p. 915).

The *Graham* doctrine provides a professional and legal understanding of reasonableness viewed as an objective evaluation. Under this understanding, the putatively objective evaluation is “...based solely on the objective circumstances of the event and the conclusion that would be drawn by any ‘reasonable officer at the scene’” (International Associations of Chiefs of Police, 2006, p.2). *Graham* does not entirely remove the subjectivity of human evaluation, but instead provides a general framework for the legal system to evaluate whether an officer’s actions are ‘objectively reasonable’ based on the circumstance confronting an officer, not the officer’s subjective intent or motive. More precisely, the legal question is: Given the totality of the objective circumstances presented to the officer at the scene, would a reasonable officer take the same actions (Shane & Swenson, 2019)?

The formulation of the ‘reasonable officer’ standard, however, has remained problematic on several fronts from *Graham*’s inception. First, there is the definitional ambiguity of what a ‘reasonable officer’ is. This ambiguity created by the *Graham* decision was intentional, as the Court acknowledged “reasonableness... is not capable of precise definition or mechanical application.” Different officers at the same scene may view the dynamics of a use-of-force encounter differently, and therefore respond with different actions (e.g., the 2014 shooting of Laquan McDonald in Chicago; Alpert & Smith, 1994). Comparably trained and competent officers may respond with different actions based on normal physiological responses that create perceptual distortions when persons act under extreme stress (Klinger & Brunson, 2009). Further, the reasonable officer standard may not permit the effective remediation of systemic problems of persistent use of excessive force since the standard is based on what actions most officers would take in similar circumstances, including those who engage in excessive use of force.

Second, the ‘reasonable officer’ standard is not being judged by an officer’s peers and professional police administrators when a claim of excessive force is adjudicated in a jury trial, where ultimately non-police citizens determine what a reasonable officer should have done in the case at hand. Clearly, police officers and members of the

public do not share a common pool of experience (Klinger & Brunson, 2009). Accordingly, an officer's actions will be viewed through the lens of a "civilian reasonable person" standard which may differ significantly from an experienced officer's standard, and "[i]t is likely that many reasonable and even highly-skilled officers would respond similarly in a given factual scenario that a jury has determined to be unreasonable conduct" (Alpert & Smith, 1994, p. 491). This discrepancy in experience between police officers and members of the public often leads to the employment of use-of-force subject matter experts in court cases adjudicating instances of police use-of-force. Attorneys defending officers often feel the need to use these experts in order to explain officers' actions.

Police officers commonly believe that the public does not understand the realities of their job, including instances where force is used (Bartels & Silverman, 2005). A common sentiment expressed by officers is that "the public is generally naïve about police work... Members of the public are basically unsupportive and *unreasonably* demanding. They all seem to think they know our job better than we do" (Sparrow, Moore, & Kennedy, 1990, p. 51, emphasis supplied).

Regarding the use-of-force issue specifically, recent research has found that police officers tend to express doubts regarding citizens' ability to understand and make competent judgments about police use-of-force. This perception on the part of police officers is a significant driving factor behind levels of police trust in the public (Mourtgos et al., 2019). A commonly shared view police officers have of the public's use-of-force expectations is, "[T]here are people sometimes that misunderstand us, and look at any use of force as unreasonable. That's not a reasonable expectation to have of a police force" (Wieber, 2017, para. 17). Bolstering this point, a recent survey by the Pew Research Center of a representative sample of U.S. police officers lends credence to this presumption of doubt by police of the public's ability to make informed judgments on police use-of-force. The Pew survey found that only 14% of police officers taking part in their national survey believed that citizens tend to have an adequate understanding of the risks and challenges that police officers face (Morin, Parker, Stepler, & Mercer, 2017).

In essence, the *Graham* framework has resulted in a standard described by Alpert and Smith (1994) as "subjective objectivity". At the institutional level, the legal system evaluates the reasonableness of police officers' use-of-force based on the *objective* circumstances presented to a given officer at a given scene. However, at the individual level, the incident is evaluated *subjectively* by various stakeholders (i.e., judge, jury, police officer, media, member of the public). These subjective opinions and standards may not (and often do not) align, and result in conflict and tension in the ongoing relationship between the police and the public they serve. *Graham v. Connor* (1989) is thirty years old, and there are recent calls to restructure the 'reasonable' standard with a 'necessary' one (Adler, 2019). A move to restructure the legal basis for force is an unsurprising development given the trend reported here of decreasing support for police use-of-force overall during the past several decades.

This tension provokes our interest in the research presented here. Examining how citizens determine legally reasonable use-of-force does not resolve the issue of "subjective objectivity." An objective definition of reasonable force continues to remain

unreachable, leaving only limited guidance for police officers and police administrators (Alpert & Smith, 1994), which suggests that the current legal standard for reasonable police use-of-force is the correct place to start an examination of this topic.

There is not yet sufficient literature on the mismatched expectations of citizens and the police regarding use-of-force standards. Previous scholarship examining attitudes toward police generally, and a robust literature examining public sentiments on police use-of-force issues specifically, provide a starting point for generating hypotheses for what factors may influence citizen attitudes toward use-of-force standards. We briefly review race and minority ethnicity, political leanings, and level of formal educational attainment as possible variables that have an impact on citizen expectations regarding use-of-force standards, and provide hypotheses for each.

Race and minority ethnicity

Race is one of the most common correlates studied in the area of police use-of-force policy preferences and incident assessments. Research regarding race and police use-of-force has universally shown that African-Americans and other people of minority racial/ethnic status tend to have a more negative view of the police and police use-of-force than their Non-Hispanic white counterparts (Arthur & Case, 1994; Brown & Benedict, 2002; Halim & Stiles, 2001; Hurst, Frank, & Browning, 2000; Roche & Roux, 2017; Thompson & Lee, 2004; Tuch & Weitzer, 1997). While there are numerous plausible reasons for these well-documented negative views, it is generally argued that they stem principally from historical police mistreatment of racial minorities (Hurwitz & Peffley, 2005; Johnson & Kuhns, 2009), dating back to slave patrols in pre-Civil War America and continued biased policing up to the present time (Hadden, 2001). As such, we hypothesize:

Hypothesis 1: Black and other minority race respondents are more likely than white respondents to disapprove of legally reasonable police use-of-force.

Political leanings

The effect of political predispositions on citizen perceptions of police use-of-force incidents is far less studied than race and ethnic minority status. However, it has been shown that individuals with conservative views are more likely to hold favorable opinions of the police than those with liberal political views (Tyler, Boeckmann, Smith, & Huo, 1997). Several political psychologists have suggested these ideological divides emerged due to the institution of law enforcement embodying conservative values such as law and order, respect for authority, and the protection of private property and proprietary information. In contrast, liberal values tend to reflect egalitarianism, right to protest and dissent from existing norms and rules, and transparency in government and business activities and archival information (Braithwait, 1998; Davis & Silver, 2004; Graham, Haidt, & Nosek, 2009).

Recent work by Patil (2018) shows that individuals who self-identify as politically liberal are more likely than their conservative counterparts to favor punishing officers who have committed a so-called false-positive error (i.e., shooting an unarmed

suspect) in a factually ambiguous situation. Braga, Winship, Tyler, Fagan, and Meares (2014) found that the more strongly individuals identified as politically conservative, the more approving their assessment of police use-of-force as depicted in real-life police videos. Fine, Rowan, and Simmons (2019) found that political orientation affects youths' perceptions of police as well; Democratic youth hold more negative perceptions of police than do Republican youth. Although the evidence is relatively scant, in line with the above observations we hypothesize:

Hypothesis 2: Respondents with liberal political predispositions are more likely, and those with conservative leanings less likely, to disapprove of legally reasonable police use-of-force when compared to those with moderate or middle-of-the-road political inclinations.

Formal education

Lower class status citizens are the most frequent targets of police abuse (Alpert & Smith, 1994). Level of formal education is widely used across the social science disciplines as a proxy measure of socioeconomic status. However, the empirical evidence on the effect of education is mixed in the case of perceptions of the police and police use-of-force. While some evidence indicates a positive relationship between education and perceptions of police and police use-of-force (Arthur & Case, 1994; Halim & Stiles, 2001; Silver & Pickett, 2015), other findings produce a more complex picture. For example, there may be interactions between race and educational levels, as suggested by evidence that more highly educated black persons perceive more injustice in police actions than their less educated counterparts (Weitzer & Tuch, 1999; Weitzer & Tuch, 2002).

Adding further to the diversity of prior findings, some studies suggest that education has no appreciable effect (e.g., Johnson & Kuhns, 2009), while Braga et al. (2014) found formal educational attainment was the sole control variable with a statistically significant relationship across respondents' assessments of police use-of-force scenarios. In the Braga et al. study, respondents with a college degree or higher were significantly more likely to register more disapproval of police use-of-force than those with lower education levels.

A review of the relationship between formal educational attainment and perceptions of police use-of-force shows the empirical record is mixed, pointing to the need for more in-depth investigation. Given the scope of this study, the data available, and these blended results as a backdrop, it is difficult to provide an *a priori* hypothesis. However, on balance, the literature appears to indicate a positive relationship between higher levels of education and evaluations of police use-of-force (Arthur & Case, 1994; Halim & Stiles, 2001; Silver & Pickett, 2015). As such, we posit the following hypothesis:

Hypothesis 3: Respondents with higher levels of formal education will be less likely than respondents with lower levels of formal education to disapprove of legally reasonable police use-of-force.

Given the above guidance, we turn to a presentation of the research questions addressed in this article and explore several decades of survey data regarding public

views on police use-of-force issues. We document the patterns uncovered in this exploration, including how they comport with the hypotheses set forth above. We then suggest some reasons for the discrepancies found between citizen expectations and legal standards for police conduct. We close with a discussion of possible policy actions to be considered to reduce the gap in expectations, along with future research directions to be considered in deepening our knowledge in this vital area of scholarship.

The present study

This study focuses on two main research questions: Are substantial portions of the public predisposed to judge legally reasonable police use-of-force disapprovingly? If so, what are the principal determinants of those disapproving attitudes?

To address these questions, we conducted a negative binomial regression analysis of General Social Survey data for the period 1990 – 2018. The study uses 1990 as the initial year for analysis because it is one year after the *Graham v. Connor* (1989) precedent-setting decision. Beginning our analysis with the year 1990 allows for a one-year lag for respondents to become aware of the still-intact-today *Graham* rules that govern police use-of-force. We do not expect members of the general public, or even individual police officers, to be familiar with the intricacies of the *Graham* doctrine, but the ruling is a convenient demarcation of the modern U.S. police use-of-force era. Police officers of today are trained in, and ultimately judged by, the standards specified in the *Graham* doctrine. Thus, limiting the dataset to this period places the analysis of both officer expectations and public perceptions on an equal temporal footing.

Controls

Several controls are used to account for possible confounding factors. First, because prior research has consistently shown that men tend to approve of police use-of-force more often than women (Arthur & Case, 1994; Barkan & Cohn, 1998; Thompson & Lee, 2004), we control for the GSS respondents' sex. Second, the majority of police-related perception studies investigating respondent age as a variable find that younger persons tend to view the police less favorably and with greater suspicion than older persons (e.g., Brown & Coulter, 1983; Cao et al., 1996; Chermak, McGarrell, & Weiss, 2001; Murphy & Worrall, 1999; Worrall, 1999). Given these findings from prior studies, we control for respondent age. Third, since previous research has shown that those in lower-income categories tend to have more negative views of the police than individuals in the middle- or higher-income categories (Brown & Coulter, 1983; Cao, Frank, & Cullen, 1996; Parker, Onyekwuluje, & Murty, 1995), we control for income. Fourth, while there is a limited amount of evidence regarding differing urban and rural views of the police, police-public tensions over use-of-force tend to be particularly salient in urban high-crime areas where police use-of-force is relatively frequent and often forceful (Geller & Scott, 1992; Klinger & Brunson, 2009). This place-based disparity may suggest that rural residents might view police use-of-force more favorably than their urban counterparts (Huang & Vaughn, 1996; Worrall, 1999). Given this possibility, we

control for the place of residence descriptor featured in the GSS data. Finally, we include the year of the survey (i.e., 1990 – 2018) as a final control variable.

Data and methods

The survey

This study utilizes data gathered by the National Opinion Researcher Center's General Social Survey (GSS). The GSS provides a nationally representative sample survey of U.S. households conducted on a biennial basis. The GSS uses a full-probability sample, and selection occurs via a multi-stage sampling of households. The GSS uses a split-sample design and consists of three different ballots. The split-sample design allows for the introduction of new topics during each survey period, while maintaining a consistent subset of questions across all surveys collected in a given year. Selection of ballots for respondents is random, so there is no systematic bias affecting which survey version a particular respondent receives.

We constrain results to the post-*Graham* years of 1990 through 2018. The GSS total response count for that period is ($n = 39,921$), but due to the split-sample design of the GSS, the total sample size for this study is limited to respondents presented with the five police use-of-force questions at the heart of this study ($n = 20,781$). Regression analysis results in dropping 809 observations, but the overall sample is compellingly large ($n = 19,972$), such that effort to recover the dropped observations is not undertaken.

Measures of assessments of the reasonability of police use-of-force

Legally reasonable use-of-force

Each respondent in the sample was asked the following five questions regarding police use-of-force:

1. *POLHITOK*: Are there any situations you can imagine in which you would approve of a policeman striking an adult male citizen?
2. *POLABUSE*: Would you approve of a policeman striking a citizen who had said vulgar and obscene things to the policeman?
3. *POLMURDR*: Would you approve of a policeman striking a citizen who was being questioned as a suspect in a murder case?
4. *POLESCAP*: Would you approve of a policeman striking a citizen who was attempting to escape from custody?
5. *POLATTAK*: Would you approve of a policeman striking a citizen who was attacking the policeman with his fists?

The responses are coded as yes = 0 and no = 1, with the yes response indicating that the respondent approved of the use-of-force action in question. Past studies utilizing the five GSS questions regarding police use-of-force have applied varying methods to the analysis of this block of survey items. Some researchers have examined each of the five questions individually (Halim & Stiles, 2001; Thompson & Lee, 2004),

Table 1. Factor analysis of five use-of-force questions.

	Legally reasonable	Legally unreasonable
POLHITOK	.68	.03
POLESCAP	.87	.18
POLATTAK	.92	-.21
POLABUSE	.34	.68
POLMURDR	-.12	.98

while others have created a scale based on adding responses to all or some of the questions (Carter & Corra, 2016; Wilson & Dunham, 2001). Yet others have suggested that the contexts provided by the different questions may lead to different evaluations of the appropriateness of the use-of-force. In reflection of this specific presumption, they separated the several questions accordingly (Barkan & Cohn, 1998; Johnson & Kuhns, 2009).

Following Barkan and Cohn (1998) and Johnson and Kuhns (2009), we apply factor analysis to all five questions. While Barkan and Cohn (1998) and Johnson and Kuhns (2009) only factor analyzed POLABUSE, POLMURDR, POLESCAP, and POLATTAK, we included the POLHITOK item as well. While the other four questions are decidedly context-specific, and POLHITOK is a general specification of normative conduct, its inclusion provides valuable insight into the public's judgment of police use-of-force within our conceptualization.

A brief discussion about which questions we expected to load on a 'legally reasonable' factor is necessary. We hypothesized that POLHITOK, POLESCAP, and POLATTAK would all load together on one 'legally reasonable' factor. First, as discussed previously, it seems legally and practically unreasonable to expect a police officer to never strike anyone in the course of carrying out their duties (POLHITOK). Second, if someone is trying to escape custody, it would seem legally and practically reasonable to expect that a police officer may have to strike that individual to keep them from escaping and posing a danger to the community (POLESCAP) (Alpert & Smith, 1994). Finally, it would seem highly unreasonable, both legally and morally, for an officer not to strike someone who was attacking them with their fists; there is a well-established and broadly recognized expectation of the right to self-defense (POLATTAK). On the other hand, it would be legally unreasonable within the discussion of 'reasonableness' above for a police officer to strike someone who was speaking rudely to them (POLABUSE) or being interviewed as a murder suspect (POLMURDR).

It should not be assumed that the specific questions featured in the GSS generalize to attitudes for all forms of police use-of-force. Striking a citizen is but one type of force, and attitudes on striking actions may not align with attitudes toward police use of lethal force, or of less-lethal weapons such as batons and tasers. However, because the GSS datasets feature only responses pertaining to the act of striking a citizen, we are limited to an examination of this specific type of force. This limitation in the GSS data should be kept in mind as analysis is undertaken.

We test our hypotheses regarding item loadings with factor analysis. Results of the factor analysis are presented in Table 1 below. To avoid potential bias due to the dichotomous nature of all five items, the tetrachoric correlation method was the most appropriate technique for performing factor analysis in this study (Mislevy,

Table 2. Descriptive statistics.

Variable	<i>n</i>	Frequency %	Mean	<i>SD</i>	Range
<i>Individual Dependent Variable</i>					
POLHITOK	20,781		.301	.459	0–1
POLESCAP	20,781		.270	.444	0–1
POLATTAK	20,781		.100	.300	0–1
<i>Summed Dependent Variable</i>					
Use of Force Perceptions	20,781		.671	.928	0–3
Count is 0	12,113	58.29			
Count is 1	4773	22.97			
Count is 2	2516	12.11			
Count is 3	1379	6.64			
<i>Independent Variables</i>					
Real Income (\$1986)	20,781		29,891.28	31,860.04	\$0–\$155,140
Age	20,735		46.52	17.23	18–89
Location Population (in 1000s)	20,781		335.01	1161.48	0–8175
Race	20,781		1.28	.592	1–3
Black	2843	13.68			
Other Race	1533	7.38			
White*	16,405	78.94			
Sex	20,781		1.55	.496	1–2
Male*	9442	45.44			
Female	11,339	54.56			
Education	20,746		1.55	1.19	1–5
Less than High School*	2979	14.36			
High School	10,779	51.96			
Jr. College	1509	7.27			
Bachelor's Degree	3647	17.58			
Graduate Degree	1832	8.83			
Political Views	20,045		2.09	.787	1–3
Liberal	5404	26.96			
Moderate*	7493	37.38			
Conservative	7148	35.66			

Note: * indicates reference category for regression analyses.

1986; Muthen & Hofacker, 1988). Based on the tetrachoric correlation matrix of the five items, maximum-likelihood factor analysis was conducted with oblique rotation (direct oblimin). The Kaiser-Meyer-Olkin measure verified the sample adequacy of the analysis ($KMO = .6$). All KMO values for individual items ranged between the minimally acceptable limit of .5 to the mediocre level of .7 (Field, 2013). Though short of the “meritorious” (>0.8) or “marvelous” (>0.9) levels originally defined by Kaiser (1974, p. 35), more recent methodological advice suggests the KMO values found here range between mediocre and good (Hutcheson & Sofroniou, 1999). Two factors had eigenvalues over Kaiser’s criterion of 1, and together explained 73% of the variance.

The items that cluster on the same factors suggest that our hypotheses regarding evaluations of legally reasonable police use-of-force were accurate, with POLHITOK, POLESCAP, and POLATTAK cleanly loading on one factor (a legally reasonable factor), and POLABUSE and POLMURDR cleanly loading on another factor (a legally unreasonable factor). These findings line up well with the factor loadings Barkan and Cohn (1998) and Johnson and Kuhns (2009) reported in their respective studies, although Johnson and Kuhns labeled their factors “reasonable” and “excessive.”

Bearing these findings in mind, and in line with our theoretical structure, we conceptualize an unreasonable expectation, in the legally reasonable/unreasonable sense, as those respondents who answer “no” to POLHITOK, POLESCAP, and POLATTAK. Again, while POLESCAP and POLATTAK are more context-specific than POLHITOK, POLHITOK still provides valuable insight into the public’s evaluation of police use-of-force within our conceptualization. As such, and in light of the factor analysis results, POLHITOK is retained in the legally reasonable factor.

As we are only interested in the factors underlying unreasonable expectations in this study (again, in the legally reasonable/unreasonable sense), only the items contained within the legally reasonable factor were used in subsequent analyses. That is, we seek to document the factors associated with respondents answering “no” to situations in which force would nonetheless be deemed legally and professionally reasonable.

Dependent variable operationalization

Given the above conceptualization of the dependent variable, the dependent variable is operationalized as a summed index of the three items that load on the legally reasonable factor, which results in a count variable ranging from zero to three. Descriptive statistics for the resulting variable, titled “Use of Force Perceptions,” are displayed in Table 2, while descriptive statistics for the underlying items are reported in Table A1 in Appendix A. Further, a figure depicting the conditional ‘and’ responses is included in Figure A1 of Appendix A.

Just over 58% of respondents have a legally reasonable view of all three use-of-force questions across twenty-six years of the GSS, while respondents with the most negative evaluations of legally reasonable force (scoring a three on the count variable) are low enough in number to be considered a rare event for modeling purposes. The proportion of respondents with “no” answers to at least one of the questions is 41.71%, while only 6.64% of respondents have a legally unreasonable view of all three questions regarding use-of-force. The distinction between the summed scale as we operationalize it, and the raw count per item, both of which are reported in Table 2, support our operationalization. It is not only the disapproval of any single legally reasonable use-of-force question which is interesting, but also how respondents conceive of police use-of-force across the three items.

Of concern to the dependent count variable is that respondents are not conditionally consistent in how they answer the questions. For instance, we might expect that someone who would never approve of an officer to strike an adult male (POLHITOK = 1) would also never approve of an officer striking an escaping suspect (POLESCAP = 1) or to defend himself from attack (POLATTAK = 1). While most respondents are consistent (all “no” or all “yes”; $n = 13,492$), not all are. Some of the inconsistency can be attributed to respondents gathering more contexts in the specific use-of-force questions, but not all of the conditional inconsistencies can be explained so optimistically. Some respondents, for example, say they *can* imagine when a strike would be reasonable (POLHITOK = 0), yet 3.44% of that group says they would not approve of a strike in the self-defense scenario (POLATTAK = 1).

There is no way to establish whether this type of discrepancy is simply an error of question interpretation or some other reason, and attempting to explain *why* respondents hold that specific combination of beliefs is outside the scope of the study in any case. However, the inconsistencies are important because they underline the study's concern with the difficulty in aligning the legally reasonable standards with public opinion on police use-of-force. A figure depicting the conditional responses of respondents to the three retained use-of-force questions is not depicted here but is available in the study's appendix. We return to this discussion in more detail in the findings section of this manuscript.

Independent and control variables

Operationalization details of the independent variables race, political views, and education, and the controls for sex, income, age, population of respondent's place of residence, and year of survey are displayed in [Appendix A](#). Descriptive statistics for all measures are presented in [Table 2](#) below.

Fully 30% of General Social Survey respondents (POLHITOK) disapprove of a police officer ever striking a male adult citizen, while 27% endorse a similar view for an officer ever striking a citizen trying to escape custody. Also, while significantly fewer respondents have a negative evaluation regarding police use-of-force against a citizen striking a police officer with their fists, it is notable that one-in-ten respondents offer a negative evaluation of this scenario. The response pattern is striking given the specific context of the latter situation: police officers defending themselves against a physical assault.

Negative binomial model specification

The dependent variable, Use of Force Perceptions, is a summed scale of the three dichotomous items of interest (POLHITOK, POLESCAP, and POLATTAK), and the resulting outcome variable is an event count that attains only non-negative, whole integer values between 0 and 3. While a Poisson distribution is more commonly used to model such event counts, that statistical analysis requires equidispersion of the mean and variance. In the case of the data being analyzed here, the Pearson goodness-of-fit criterion indicates the distribution significantly differs from the Poisson distribution, as the conditional variance is greater than the conditional mean. In such cases, there is agreement among researchers that a negative binomial regression is an appropriate alternative (see Hilbe, 2011; Dowler & Zawilski, 2007).

The dependent variable displays a high proportion of zeroes due to the decision to code respondent answers to the underlying items as zeroes for "yes" answers, and ones for "no" answers. Raw GSS data for these questions uses (no = 2, yes = 1), and our transformation introduces zeroes and ones, but this is an operational decision that does not affect the underlying process, and model results are robust to either coding scheme. In all three underlying questions, the majority of answers are the legally reasonable "yes," and so in the summed count dependent variable there is a substantial proportion of zeroes. While this may indicate that a zero-inflated negative binomial (ZINB) model would be the ideal choice, in this case it is not appropriate. The ZINB

model requires a theoretical interpretation in which there are two or more 'kinds' of zeroes in the data (Greene, 1994). Such a theoretical interpretation does not fit the underlying data studied here.

The heavy proportion of zeroes in a dependent variable is not enough on its own to require a ZINB model. There must also be multiple processes leading to the zeroes, such as individuals who have zero probability of a count higher than zero. A ZINB model specification is appropriate, for example, when the outcome of interest does not occur (zero count), can occur but not be recorded (zero inflation), or cannot occur in some cases (zero inflation). In outcomes like this, there is process heterogeneity that artificially inflates the zero count, which if modeled with Poisson or NB distributions leads to poor estimation.

In this study's dependent variable, there is only one process for a respondent's answer to be "no" (and thus coded as a one), or "yes" (and thus coded as a zero). No respondent is structurally incapable of answering "yes" or "no." There are not multiple processes leading to an inflation of zeroes, as "zero" is a coding choice for cases, rather than a physical count where zero is the absence of an outcome of interest. In other words, there are a lot of zeros, but they are not inflated zeros and could just as easily be "deflated" (yes = 1, no = 0) with a different coding decision.

Negative binomial regression is used here to investigate our fundamental research question – how often does the 'event' of a respondent answering the use-of-force questions contained within the GSS occur in what has been conceptualized here as a legally unreasonable way? Negative binomial regression allows us to assess how a one-unit change in each of the independent variables affects the likelihood of a negative evaluation of legally reasonable police use-of-force as conceptualized here. The results of the analysis appear in [Table 3](#).

Findings

The general picture emerging from the analysis is in line with previous studies suggesting that demographic factors condition the likelihood of respondents' views regarding police use-of-force. The chi-squared statistic reported in [Table 3](#) indicates that all iterations of the complete regression model are significant at the .01 level. Statistical significance was accepted at the .01 level for independent variables. All independent variables have a significant effect on the count outcome in the direction predicted by our research hypotheses.

We found strong support for hypothesis 1, which pertains to race and minority ethnicity. While other variables in the model are held constant, black respondents are expected to have a rate 1.908 times greater than Non-Hispanic white respondents for disapproving of legally reasonable use-of-force, while non-white, non-black minority group respondents are predicted to have a rate 1.887 times greater.

As in previous studies, the results of our analysis confirm significant support for ideological effects on citizen views of police use-of-force (hypothesis 2). Respondents who identify as having liberal political views are expected to disapprove of legally reasonable use-of-force at a rate 1.070 times greater than those who identify as

Table 3. Negative binomial model: Number of legally unreasonable answers to GSS use-of-force questions.

Use of force perceptions (Count)	IRR (Std. Err.)	[95% Conf. Interval]	
Female	1.434 (.028)**	1.380	1.491
Race			
Black	1.908 (.046)**	1.189	2.000
Other Race	1.887 (.059)**	1.773	2.007
Political Ideology			
Liberal	1.070 (.025)*	1.023	1.121
Conservative	.862 (.020)**	.823	.901
Formal Education			
High School	.707 (.018)**	.672	.744
Jr. College	.662 (.028)**	.609	.720
Bachelor's Degree	.539 (.019)**	.503	.578
Graduate Degree	.598 (.027)**	.548	.653
Age	1.000 (.0005)	.999	1.001
Population	1.000 (.000)**	1.00003	1.00006
Real Income (\$1986)	.9999 (.000)**	.999996	.999998
Year	1.010 (.001)**	1.008	1.013
Constant	6.07e-10	8.53e-12	4.32e-08
	(1.32e-09)**		
Pseudo R^2	0.0542		
LR χ^2	2399.93		
Alpha	0.237 (0.021)	0.199	0.281
Log-likelihood	-20938.889		
Observations	19,972		

Note: Reference categories not displayed for education (less than high school), sex (male), race (white), and political views (moderate); Significance levels at * $p \leq .01$ and ** $p \leq .001$.

moderate, while conservative respondents would be expected to have a decreased rate of disapproval by a factor of 0.862.

The data demonstrate the effect of formal educational attainment on respondents' views of police use-of-force (hypothesis 3). The results reveal that there are significant effects across education levels, though not in a perfectly linear fashion. The model makes use of respondents with a less than high school education as the reference category. The results indicate that as respondents increase in their education level through a bachelor degree, there is a steady decrease in disapproval of justified uses-of-force by police. All else equal, when compared to those without a high school diploma, an increase in educational level reduces disapproval by a factor of 0.707 (high school), 0.662 (junior college), and 0.539 (bachelor degree). While graduate-level education still produces a significant decrease in the expected rate of legally unreasonable answers by a factor of 0.598, when compared to the least educated respondent class, it slightly reverses the trend observed through the bachelor degree level. Given the difficulty in directly interpreting exponentiated coefficients, along with the small absolute differences, observed suggests that the most defensible interpretation of the effect of formal education is that it generally decreases legally unreasonable opinion on police use-of-force.

Except for respondents' age, all control variables (sex, income, size of city wherein one resides, and year of the survey) were found to be statistically significant. The model indicates that when compared to men, women are more likely to disapprove of legally reasonable use-of-force scenarios (IRR = 1.434). The effects of the control variables for income, city population, and time (year) are all significant though minimal. As

real income increases (\$1986), the model predicts a decrease in use-of-force disapproval ($IRR=.999$). As population size increases, the model expects a respondent to increase their disapproval of legally reasonable use-of-force scenarios ($IRR = 1.00$). Finally, the model shows that with all else held constant, over time the aggregate disapproval of legally reasonable use-of-force increases ($IRR = 1.01$).

Discussion

Our results indicate that a sizeable portion of the American public tends to express disapproval of legally reasonable police use-of-force. It should be kept in mind that these results may not generalize to attitudes for all forms of police use-of-force. Striking a citizen is but one form of force, and police striking citizens may not align with attitudes toward police use of physical force that might include the use of a baton, use of less-than-lethal weapons such as a taser, or use of lethal force.

With the above noteworthy reservations in mind, the results of our research correspond with past scholarship in that race and minority ethnicity appear to be the most substantial influences on citizen assessments of police use-of-force (Arthur & Case, 1994; Brown & Benedict, 2002; Halim & Stiles, 2001; Hurst et al., 2000; Roche & Roux, 2017; Thompson & Lee, 2004; Tuch & Weitzer, 1997). Black and other minority respondents were much more likely in comparison to non-Hispanic white respondents to have what has been conceptualized as legally unreasonable expectations of police use-of-force. This finding held even when controlling for sex, age, political views, and socioeconomic status indicators. Scholars have proposed that, specifically for African-Americans, this effect is likely due to historical influences (Johnson & Kuhns, 2009). Hurwitz and Peffley (2005) found support for the hypothesis that blacks' global attitudes for the evaluation of police interactions are more negative than for whites. They state in this regard, "Given the history of racial bias in the system, African Americans should be more vigilant to signs of discrimination in encounters between police and ... citizens" (p. 767).

Small (1983) reported the same phenomenon with black subjects having a negative global attitude toward the police. He found this negative perception of the police could not be explained based solely on personal experiences, but rather by stories from family, friends, and the media which reinforced the larger negative narrative. Small's findings may help interpret the results of this study, as black and other minority respondents expressed higher levels of disapproval of what *prima facie* are broadly considered legally reasonable circumstances for the use-of-force by police officers.

Although the literature on the expected effect of political identification and normative evaluations of police use-of-force is not extensive, it is consistent; accordingly, we hypothesized that respondents with liberal political views would be more likely to have more negative, and conservatives less negative, evaluations of legally reasonable police uses-of-force when compared to self-identified moderates. The results here provide preliminary evidence that even when other demographic characteristics are held constant, a respondent's self-reported ideology has a significant effect on their views on police use-of-force issues. As with race and ethnicity, the ideological divides

between conservative values and liberal values (Braithwait, 1998; Davis & Silver, 2004; Graham, Haidt, & Nosek, 2009) also influence evaluations of police use-of-force.

For policymakers, one critical takeaway of these results is that negative evaluations of legally reasonable police use-of-force are heavily influenced by demographic factors outside the control of police officers and police administrators. Exploring similar ground, Braga et al. (2014) likewise found that social contextual factors, such as citizen political ideology, had a significant influence on appraising the fairness of officers' actions. If true, and perceptions of police use-of-force are driven by unalterable factors beyond the control of the police, the police and those citizens with arguably unreasonable expectations for police conduct may be caught in a situation perpetuating mistrust.

One may argue that the actions of officers in instances of use-of-force *can* influence citizens' perceptions, and that the preceding analysis leads to an overly cynical conclusion. Perceptions of procedural justice (i.e., the evenhandedness and fairness of police procedures) are argued to be the primary antecedent to police legitimacy (Wolfe et al., 2016). Perhaps some cynicism is warranted, but it remains an open question as to the full degree to which police behaviors affect the public's subjective perceptions of procedural justice (Nagin & Telep, 2017). This lack of clarity is because procedural justice research has almost exclusively relied on citizen survey data in the documentation of the phenomena. In a recent report, the National Academies of Sciences, Engineering, and Medicine (2018) observed that only one study (Worden & McLean, 2014) had assessed the association between subjective perceptions of procedurally just treatment and actual police treatment. Worden and McLean found that citizens' subjective perceptions of procedural justice and officers' actual procedural justice-related behavior are not mere reflections of one another. The authors concluded from their observations and data collected that it is "imperative to draw a sharp distinction between procedural justice as citizens' subjective experience and procedural justice as officers' overt behavior. They are different phenomena ..." (p. 18).

Worden and McLean argue that *whether* officers used physical force was more important than *how* they used force in affecting citizen assessment of procedural justice. They reported that the *how* largely did not matter mainly because citizen assessments were shaped primarily by influences beyond officers' control, such as citizens' background, situational context, citizens' race, age, and gender. Further, findings drawn from panel data and other types of research into citizen attitude formation regarding their perception of the police reinforce the overall idea that citizens' subjective evaluations of a police interaction are shaped more by their prior attitudes than contemporaneous police interactions (Sargeant et al., 2018; Worden & McLean, 2014).

Several explanations for both the results of this study and the Worden and McLean (2014) study are available. First, some members of the public may make judgments about police use-of-force based mostly on emotions (Shane & Swenson, 2019). Indeed, when controversies over police use-of-force arise, they are often highly emotionally charged, and it is well understood that evaluations and actions based on emotion (especially negative emotion) can impair the kind of rational decision-making (Kahneman, 2003) upon which legal analysis is founded. When emotionality is high,

reasoned legal analysis is unlikely to predominate. The inconsistent inter-item patterns we highlight elsewhere are empirical evidence that full legal rationality is not a reality. An assumption of legal rationality also assumes that members of the public have sufficient, capable knowledge of constitutional law and the legal system. Research on this matter tends to undermine this assumption (Jamieson & Hennessy, 2006), and may, in part, help explain the observed reduction in disapproval of legally reasonable use-of-force as formal educational attainment level increased. That is, as education increases, exposure to constitutional law and the legal system, as well as exposure to critical thinking, increases, thus likely providing a more legally-informed view of police use-of-force situations.

Second, there may be an evaluative mismatch with use-of-force incidents due to a knowledge and experience gap when it comes to the human factors typically involved in police use-of-force events (Klinger & Brunson, 2009). While some argue that complaints against police officers for excessive use-of-force do not receive the scrutiny and legal consequences if sustained upon independent investigation that they deserve (Lacks, 2008), others argue with equal force that at times citizens hold officers to an impossible, superhuman standard of conduct (Blair et al., 2011). To better understand what are 'human' and 'superhuman' expectations of a reasonable officer, researchers have begun to study human factors (Hope, 2016; Kleider-Offutt, Clevinger, & Bond, 2016; Nieuwenhuys, Savelsbergh, & Oudejans, 2015) that place limitations on what one can reasonably expect from police officers involved in stressful situations.

A host of psychophysiological reactions (i.e., perceptual distortions, memory distortions, and reaction time) have an impact upon any human being's ability to gather information on, and react to, critical situations. Such research is still at a nascent stage, but several studies shed light on what can reasonably be expected of officers. For example, Klinger and Brunson (2009) showed that the majority of officers in their sample who had been involved in a shooting experienced at least two noteworthy perceptual distortions during the incidents in which they were involved. Most often these perceptual distortions were those of auditory blunting and tunnel vision. These natural distortions are subjective and cannot be 'seen' by anyone other than the officer experiencing them. This divergence of 'felt subjective experience' and 'seen objective display' may result in perceptions of unreasonable force, when in fact it is a reasonable human reaction experienced by people acting under stress. A long, but highly relevant passage from Klinger and Brunson describes precisely how such pertinent distortions can arise in police use-of-force situations (p. 134–135):

"The reality of a given situation might be, for example, that an officer is shouting for her partner not to shoot because she has properly identified the pistol held by a robbery suspect standing in a dark alley to be a toy. Because her partner is experiencing auditory occlusion, however, he does not hear her shouts and takes the suspect under fire because he believes the toy to be a real gun. Similarly, the shooting officer might continue to fire after the toy gun has fallen from the suspect's hand because tunnel vision has restricted his visual field to the suspect's torso, where he is aiming his shots. Continuing with our hypothetical, a civilian witness with a video-equipped cell phone observes and records the event; then the witness goes on to present both testimonial and electronic evidence demonstrating that (1) the suspect did not have a real firearm, (2) the partner officer loudly told the shooter not to fire, and (3) the officer who took the suspect under fire ... continued to fire after the suspect dropped the object from his

hand...Based on the actual threat...it would seem clear that he should not have fired...but things are not so clear if we judge the shooter's actions from his perspective."

Officers frequently experience sensory distortions during use-of-force incidents (Klinger & Brunson, 2009), but these normal limits of human performance are not well known and can result in the *perception* of unreasonable use-of-force. As such, police officers and some members of the public are likely to evaluate use-of-force incidents very differently (Alpert & Smith, 1994; Herbert, 2006; Mourtgos et al., 2019). A deeper understanding of what officers experience during a use-of-force incident may lead to better training of the police and the legal profession (prosecutors and attorneys for the defense alike) and help reduce tension between the police and the public (Klinger & Brunson, 2009).

Addressing inconsistent public opinion

Our findings indicate that many individuals hold unreasonably disapproving attitudes concerning police use-of-force issues. Further, the robustness of legally unreasonable public opinion on police use-of-force is alarming, with 41.7% ($n = 8,668$) of respondents having at least one legally unreasonable response to the three GSS items analyzed here. Looking past the inter-item inconsistencies discussed below, if respondent answers are accurate reflections of their genuinely held belief, the fact that 30.06% of respondents would *never* approve of a police officer striking a suspect casts significant doubt on the ability for many citizens to provide an informed view of what is reasonable in police use-of-force situations. Just over 27% also did not approve of striking a citizen who was attempting to escape custody, and perhaps most concerning, 9.98% of respondents did not approve of officers striking a citizen even when that citizen is physically attacking the officer.

However, the issue of inter-item consistency is not ignorable and raises concern beyond the percentages of legally unreasonable views at the level of the survey items. In some cases, this inconsistency can be construed as a reason for optimism. For example, of those who report they would never approve of a police officer striking an adult male, and maintain that disapproval for striking a suspect escaping custody ($n = 3,328$), 58.56% ($n = 1,949$) say they would approve of an officer striking an adult male who was attacking the officer. The change from *never approve* to *approve conditionally* might be explained if we assume that with more pointed context, some subset of initially legally unreasonable respondents is willing to change their mind. Such an explanation gives hope that our later recommendation for increased public education and active engagement might reap at least some benefit.

That hopeful conclusion is tempered by both the consistency of legally unreasonable opinion by a minority of respondents, as well as the inconsistencies that do not break so clearly for the optimistic side of interpretation. First, there are subsets of respondents that are consistently unreasonable. As indicated by the highest count in our dependent variable, some 6.64% of respondents answer 'no' to all three underlying questions. Taken on its face, and putting aside the possibility of measurement or respondent error, this is a subset of the population that appears dedicated to a legally unreasonable interpretation of police use-of-force.

A second type of inconsistency resists attempts to parse logically. What to make of the 3.44% of respondents ($n = 500$) who can generally think of times where it would be okay for an officer to strike an adult male ($POLHITOK = 0$), but who would *not* approve of an officer striking in self-defense ($POLATTAK = 1$)? Response or measurement error seems a likely candidate for at least some of that type of inconsistency but is unlikely to explain all of it, and the practical public policy response is unclear. A figure displaying the inter-item consistency for the individual survey items underlying the summed dependent variable is available in the study's appendix.

Generally, the mix of mostly consistently legally reasonable ($n = 12,113$), consistently legally unreasonable ($n = 1,379$), and inconsistent ($n = 7,289$) public opinion is evidence in favor of both the study's importance and its dependent variable operationalization. First, there is tension at every level of public opinion on police use-of-force measured here, which matches the national climate of tension generally found around police use-of-force. The response variability shows that public opinion provides irregular ground for structuring police use-of-force, and should provoke more nuanced discussion and investigation into the underlying formation of those opinions.

Second, the variability and inconsistency suggest that a count variable, despite its limitations, is an appropriate operationalization for the dependent variable used in our analysis. Analyzing a single item general response ($POLHITOK$) gives little understanding of the nuance, while analysis of the most facially defensible type of police force ($POLATTAK$) risks overlooking the relatively broad subset of American's who are discomfited by the very idea of governmental violence no matter the context. Neither is satisfactory, and our count variable solution is short of perfect. However, to the degree that all research designs are choices among imperfect alternatives, our choice falls somewhere short of perfection while remaining defensible and tractable. Whether the results are useful must be left to the passing of time.

Addressing the findings

Our findings raise the question of what can be done to increase police legitimacy when it comes to the public's evaluation of police use-of-force if the public's evaluations are far from aligning with the legal and professional training standards police officers are expected to uphold. We make two suggestions centered on public education and active engagement with citizens.

Some agencies have utilized programs such as citizen police academies to help members of the public learn about police practices and use-of-force – both the legalities at play and the human limitations involved. However, those who attend these academies are most typically already supportive of the police (Engel & Smith, 2009). More attention should be paid to reaching those who are inclined to have unfavorable views of the police such as low socioeconomic status individuals, women, and racial and ethnic minority community members. These groups were shown to be more likely to disapprove of legally reasonable use-of-force. Indeed, some educational opportunities have influenced ardent critics of police use-of-force to moderate their views substantially (Chiaromonte, 2015). However, these programs must be able to scale up effectively. Teaching a few citizen police academies a year, or providing isolated use-

of-force education opportunities, are unlikely to have a demonstrable effect in medium and large cities. Instead, educational programs on the scale of public ad campaigns might be piloted alongside the more direct and substantive public education that takes place in citizen academies.

Engel and Smith (2009) also point out that police agencies generally have not addressed the need to educate citizens concerning the complexities of police use-of-force. In the absence of such information, much of the public is left to form views of police use-of-force through a frame mediated by popular culture depictions. With most citizens never having to subdue a resisting individual, or attempting to control a chaotic and dangerous situation “under conditions of fear, panic, and chaos” (Engel & Smith, 2009, p. 141), they are often left to evaluate police actions based on television portrayals, movies, and the vicarious experiences of others with whom they come in frequent contact such as family, friends, and workplace acquaintances (Dowler & Zawilski, 2007; Eschholz, Blackwell, Gertz, & Chiricos; Small, 1983).

With that background in mind, another educational possibility has arisen with the rapid and widespread adoption of body-worn cameras (BWCs) in police departments. While recent work has highlighted the lack of consistent research findings on the impact of BWCs on use-of-force (Lum, Stoltz, Koper, & Scherer, 2019), as well as the impact of BWCs on vulnerable populations (Adams & Mastracci, 2017) and burnout in officers themselves (Adams & Mastracci, 2018), one positive outcome may be the ability for police departments to produce and distribute realistic videos of police use-of-force culled from BWC footage. Such footage may help combat the often unrealistic views portrayed in popular entertainment.

The recently developed television show “Body Cam” on the Discovery Channel (Body Cam, 2018) is attempting to do precisely that, but some caution is warranted. The ‘reality police’ television show concept is not a novel invention, and some research indicates that such television programs may inadvertently increase the racial divide in citizen attitudes toward the police (Eschholz et al., 2002). To forestall this outcome, and to utilize such shows and BWC footage as educational tools, it is imperative that legal process-based explanations and current information regarding human limitations are included in the interpretation of the incidents taking place. Much of the CIT training noted earlier in modern police training and academy settings entail just such use of BWC video archives.

Second, if progress is to be made in police-community relations, the evidence and analysis presented here suggest a two-pronged approach to relationship building between the police and the public is required. While continued progress and attention to guardianship-oriented policing as advocated in the President’s Task Force on 21st Century Policing are necessary, so too is an improvement in public understanding and knowledge about why police take use-of-force actions, and what situational factors typically make it necessary and reasonable to do so. That is, these issues of police legitimacy cannot fall solely on the shoulders of the police (Mourtgos et al., 2019). It takes an engaged citizenry to ensure a robust democratic society, and mutual trust is necessary for sustaining democratic governance (Yang, 2005). The public at-large should engage constructively with their local police departments in their respective communities to understand more fully the police culture and the challenges facing

police officers. Unfortunately, citizen interest in participation in police engagement programs is too often underwhelming (Herbert, 2006), particularly in communities where tensions and historical events have led to animosity. A genuine commitment to improving police-community relations requires equal involvement on the part of the police and the citizens they serve.

A third possible policy approach is the alteration of the legal standards for police use-of-force. Recently, the State of California has considered legislation that would change the use-of-force standard from 'reasonable' to 'necessary' (Bollag & Thompson, 2018). Under this standard, officers would only be authorized to use deadly force when it is 'necessary', rather than when it is deemed 'reasonable' under the circumstances presenting themselves to an officer. It is unclear how this standard would work based on the discussion above regarding evolving evidence on human performance limitations. If the 'necessary' standard were enacted, an officer faced with a subject pointing a realistic looking toy gun at them (as in the hypothetical situation presented earlier) could be criminally charged for using unlawful force by shooting that person. This solution may lead to an unworkable standard for officers as "the decisions that officers make about firing their weapons will frequently be based on perceptions of the situation that do not enjoy a one-to-one correspondence with objective reality" (Klinger & Brunson, 2009, p. 134). Nonetheless, it is an option that forms part of the "national conversation on reforming police practices by evaluating the current law on police use of deadly force" (Lee, 2018, p. 629).

Limitations

The findings presented here contribute importantly to the ongoing national debate regarding police use-of-force, but the study is not without limitations. First, as in previous studies using the General Social Survey data, the racial characteristics of respondents are challenging to operationalize. While the survey has made strides in recent years in going beyond black/white/other classifications, this study is forced to use the older survey race scheme to maintain consistency over the 1990 to 2018 period. In light of this limitation, few conclusions can be drawn for the impact of those characterized as having an "other race" categorization despite the relatively large effect documented in the regression model summary statistics.

Second, this study suffers from the usual validity threats found in survey-based research, and despite including controls for the generally increasing cynical national mood developing throughout the years surveyed, there are likely unexamined confounding variables which could be included in such a longitudinal study. Confounding variables may include the influence of media stories about past or recent police-community conflicts, jurisdictional idiosyncrasies within and across locations, and environmental factors (i.e., jurisdictional policing styles and crime rates). Recognizing the limitations of using survey data to examine this topic, experimental methods have been used effectively to investigate the dynamics associated with public perception of police use-of-force (Braga et al., 2014; Patil, 2018), and future research should continue to leverage the power of multiple methods to investigate the justice perceptions of the general public.

Third, one limitation of our operationalization of the dependent variable as a count variable is that to some degree it assumes a stability, or logic, within respondent answers to the three questions which we conceptualize as having a 'legally reasonable' answer ("yes"). That assumption of validity can be undercut in two ways. First, there is limited enough covariance between the three to suggest a lack of opinion stability between them. Second, and more difficult to intuit, are the portions of the public with directly conflicting inter-item scores. The presence of conflicting inter-item scores is discussed in much more detail above in the discussion section of this manuscript, and this limitation is mitigated by the relatively small proportion of observations which display this inconsistency and is partially addressed statistically in our factoring strategy.

The final limitation of this study is an artifact of large national-based surveys, in that how the public perceives police use-of-force is contextually dependent. We posit there is a legal and normatively reasonable answer to the three questions investigated here. However, researchers cannot realistically expect respondents to respond *tabula rasa*, without experience or the personal context which has formed the values and beliefs underlying their views of police, violence, or police use-of-force. Several experimental researchers (Patil, 2018; Testa & Deitrich, 2017; Culhane Boman, & Schweitzer, 2016) have demonstrated the substantial influence of recency on how the public perceives the justifiability of police use-of-force. Given these effects, some respondents who are characterized within our study as disapproving of reasonable police use-of-force are likely to be responding to a specific incident within their own experience or perception, or vicarious account of a family member or acquaintance, rather than the universalized phrasing of GSS questions. This limitation is outside the scope of this study, but is a consideration for future research aiming to understand public perceptions of police behavior.

Conclusion

Policing American communities is a demanding task. This study shows that a sizeable portion of the American public disapproves of police use-of-force in situations in which such action would be legally and professionally reasonable. The tension between the legal standards on one side, and the evolving and sometimes legally unreasonable expectations of the public on the other, makes the job of policing extremely difficult for front-line police officers and their administrators. Continuing to professionalize law enforcement in the United States is vital, including raising performance standards, decreasing incidents of use-of-force where possible, and holding officers accountable when appropriate. However, that list of goals reflects normative goals already in place across much of the country, and the findings on citizen attitude formation reported here indicate a growing gap between legal structures, professional codes of conduct, and the public regarding police use-of-force. Reducing the space between legal expectations on the one hand, and community expectations on the other, is an increasingly salient public policy priority.

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Appendix A

Table A1. Variable operationalization and descriptive statistics.

Variable	Mean	SD	Min	Max	Operationalization
<i>Dependent variables</i>					
Use of Force Perceptions (Composite)	.671	.928	0	3	Count variable summed from “no” answers to POLHITOK, POLATTAK, and POLESCAP
POLHITOK	.301	.459	0	1	“Are there any situations you can imagine in which you would approve of a policeman striking an adult male citizen?” 0 = Yes, 1 = No Years Asked: 1973, 75, 76, 78, 80, 83, 84, 86 – 2018
POLATTAK	.100	.300	0	1	“... Was attacking the policeman with his fists?” 0 = Yes, 1 = No Years Asked: 1973, 75, 76, 78, 80, 83, 84, 86 - 2018
POLESCAP	0.270	.444	0	1	“... Was attempting to escape from custody?” 0 = Yes, 1 = No Years Asked: 1973, 75, 76, 78, 80, 83, 84, 86 - 2018
<i>Independent variables</i>					
Year	2,003.74	8.88	1990	2018	Year of GSS survey
Age	46.52	17.23	18	89	Continuous measure of respondent age
City Size	335.01	1161.48	0	0 - 8175	Ordinal measure of population of respondent's home city, in 1000s.
Income	29,891.28	31,860.04	0	\$155,140	Ordinal measure of income, in whole 1986 dollars.
Sex	1.55	.498	1	2	Reported gender; Male = 1, female = 2.
Race	1.28	.592	1	3	Reported Race; white=1, black=2, other=3
Political Views	2.09	.787	1	3	Reported ideology; liberal = 1, moderate = 2, conservative = 3.
Formal Education	1.55	1.19	1	5	Respondent's Highest Degree; less than high school = 1, high school = 2, junior college = 3, bachelor degree = 4, graduate degree = 5.

Conditional “AND” Respondent Answers
General Social Survey, 1990-2018 (n=20,781)

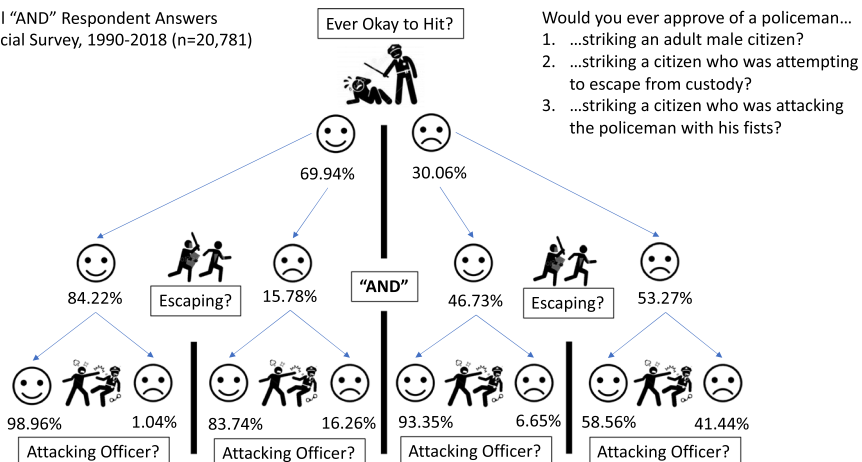


Figure A1. Conditional ‘and’ responses.