EXAMINING THE IMPACT OF POLICE USE OF FORCE POLICY CHARACTERISTICS ON USE OF FORCE OUTCOMES

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Davis Shelfer

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ABSTRACT

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To reduce the frequency and severity of force used by police, many agencies have accepted recommendations to revise written policies, placing greater restrictions on discretionary use-of-force behavior. Prior research indicates that some policy modifications can be effective at improving force-related outcomes, however this research is typically limited to single-agency, incident-level designs. The lack of reliable, compatible agency-level data is cited as a barrier to agency-level comparative research.

Recent improvements in transparency have significantly expanded the quantity, quality, and compatibility of publicly available use-of-force data. While a complete, nationwide database of use-of-force policies and outcomes is not yet available, this dissertation samples 114 large municipal agencies that report year-matched use-of-force policy and outcome data. Manual searches of agency websites, city websites, and state databases are used to construct this sample, which is largely representative of the 619 municipal police agencies in the United States that employ at least 100 full-time sworn officers. Agency-level use-of-force data are drawn from these websites and merged with relevant contextual factors from the 2018 Census of State and Local Law Enforcement Agencies, 2022 American Community Survey 5-year estimates, and 2016-2022 Uniform Crime Report arrest and offense data.

Using descriptive analyses, bivariate analyses (i.e., phi, chi-square, t-tests, and one-way ANOVA), and negative binomial regression, this dissertation explores associations between policy characteristics and outcomes in use-of-force data. These

analyses assess police agency conformity to characteristics derived from #8cantwait recommendations, explore potential impacts of collaboration with private companies to write policy, and test whether restrictive use-of-force policy characteristics are associated with lower rates of force incidents and force-related injuries and deaths.

The results provide no support for the hypothesis that more restrictive use-of-force policy components are negatively associated with aggregated use-of-force outcomes at the agency-level. These results imply that use-of-force policy reforms, in isolation, are unlikely to precede large reductions in the frequency and severity of force at the agency-level. The quantity, quality, and compatibility of publicly available data on use-of-force policies and outcomes are still insufficient to establish sufficient statistical power to detect small effect sizes. Recommendations for practitioners and researchers are provided.

KEY WORDS: Police; Use of force; Policy characteristics; #8cantwait

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CHAPTER I

Introduction

In the United States, a defining characteristic of police work is the use of force (Bittner, 1970; Manning, 1997). Some situations, particularly those created by criminal acts, require coercive force to restore order when peaceful appeals to cease harmful behavior fail or are impractical. Through the social contract, police have been delegated in most democratic societies as the primary sanctioned mechanism for distributing non-negotiable coercive force to resolve disturbances (Bittner, 1970; Rousseau, 1762/1968). The legally sanctioned authority of police to use force on free people is unique among American institutions and has been the source of much controversy, legislation, court judgment, and empirical study.

The use of force by police is a relatively rare occurrence (Tapp & Davis, 2022). One nationally representative survey found that, out of nearly 54 million police-citizen contacts in 2020, just over one million contacts (1.9%) involved a threat or use of non-fatal force (Tapp & Davis, 2022, p. 5). This estimate is consistent with those produced in 2008 (1.4%) and 2002 (1.5%; Eith & Durose, 2011). The rates of force threatened or used against people who are young, male, Black, or Hispanic are consistently higher (Eith & Durose, 2011; Tapp & Davis, 2022), and between 600 and 1,200 people are killed by police each year (Korhonen, 2023; Mapping Police Violence, n.d.; University of Illinois Chicago, n.d.).

Despite its infrequent nature, the use of force by police remains a critical topic for study and informed regulation given how important it is that police use this power responsibly. In a democratic society, violence perpetrated by the state against its people

must be well-justified, particularly since suspects in the United States are innocent until proven guilty. When force is applied unevenly and unjustly, it erodes community trust, opens the police agency to costly litigation, and can spark widespread civil disorder (Geller & Scott, 1992; National Advisory Commission on Civil Disorders, 1968), as exemplified recently by the killings of Eric Garner (2014), Michael Brown (2014), and George Floyd (2020; *Chicago Tribune*, 2014; Davey & Bosman, 2014; Gross & Eligon, 2020).

Publicized acts of excessive force by police produce a wide range of suggestions for reform, ranging from outright calls to "defund the police" (Gross & Eligon, 2020) to more moderate suggestions like modifying police administrative policies regulating the use of force. Campaign Zero's *#8cantwait* movement is a prime example of the latter, and unlike the defund the police movement which has made minimal progress in the past decade (Londoño, 2023), the eight policy suggestions proposed by #8cantwait have been adopted to varying degrees by many police departments (Associated Press, 2020; Campaign Zero, n.d.; City of Chattanooga, n.d.; Clovis Police Department, n.d.; Culver City Crossroads, 2020; Farley, 2020; Irving Police Department, 2020). These policy recommendations are also well-marketed to the public, earning endorsements from celebrities including Oprah Winfrey, Ariana Grande, and Jack Dorsey (Dorsey, 2020; Earl, 2020; Grande, 2020; Winfrey, 2020).

The eight recommendations consist of a requirement to de-escalate situations, employ a specific use-of-force continuum, ban all chokeholds and strangleholds, give a verbal warning before using deadly force, ban shooting at moving vehicles, exhaust all alternatives prior to deadly force, intervene and report excessive force to a supervisor,

and report each time force is used or threatened (Campaign Zero, n.d.). Campaign Zero claims that these use-of-force policy reforms significantly reduce police violence, but this claim is based on one non-peer reviewed study by the organization's co-founder (Sinyangwe, 2016) and three single-site studies of policy reforms published between 1979 and 2000 (Campaign Zero, 2022).

Despite calls for policy-based reform to reduce the use of force by police, there have been few comparative agency-level examinations of the relationship between use-of-force policy and related outcomes. This is a significant gap which leaves police administrators who are considering use-of-force policy reform without a sufficiently developed evidence base to draw from. Of particular concern is whether these recommendations reduce the rates of force used and injuries and deaths to suspects and officers.

Historically, use-of-force comparisons at the agency level were a nearly impossible undertaking, given divergent definitions of the use of force, limited recordkeeping of force applications and outcomes, nebulous use-of-force policies, and tightly controlled access to the few policies and data which did exist (Geller & Scott, 1992). During the past decade of unrest related to the use of force, however, many police agencies, cities, and states have begun posting use-of-force policies and related data online. These data are typically made available in the interest of transparency, accountability, and to encourage constitutionally compliant policing (Chicago Police Department, n.d.; City of Houston, n.d.). This information often includes the reporting criteria and definitions necessary for researchers to assess whether data produced by agencies in a prospective sample are compatible with one another. At the same time,

definitions of force and reporting procedures have become more comprehensive and uniform as agencies pursue legal best practices, often with the assistance of third parties like Lexipol, who currently write policy for over 3,500 police agencies (Eagly & Schwartz, 2022). Using publicly available policies and data, it is now possible to assess the agency-level relationship between use-of-force policy characteristics, like those advocated for by #8cantwait, and the use-of-force outcomes those recommendations are intended to minimize.

To advance our knowledge of the effects of written policy on police behavior and contribute to an underdeveloped evidence-base surrounding recent calls for reform, this dissertation examines the impact of police use of force policy characteristics on use of force outcomes. Specifically, this dissertation explores whether police agencies with more restrictive use of force policies use force less, injure and kill fewer suspects, and have fewer officers injured.

This dissertation accepts the use of force definition developed by the International Association of Chiefs of Police (IACP), in partnership with the Department of Justice, which is the "… effort required by police to compel compliance by an unwilling subject" (IACP, 2001, p. 1). This includes physical force (e.g., hands, fists, feet), chemical force (e.g., oleoresin capsicum [OC/pepper spray], tear gas [CN, CS]), electronic force (e.g., TASER), impact force (e.g., baton, less-lethal munitions), and deadly force (e.g., firearm; IACP, 2001, pp. 66-67). Other forms of police coercion are not universally accepted as uses of force, including officer presence, verbal commands, handcuffing (with or without resistance), and shows of force (e.g., displays/pointing of a firearm or other weapon; IACP, 2001, p. 67). Except for pointing a firearm, which is core to an #8cantwait policy

recommendation, these other forms of coercion are left beyond the purview of the current dissertation, as theoretical and empirical work on these topics is sparse and these forms of coercion carry a lower risk of harm.

The next chapter, Literature Review, begins with definitions and a brief historical overview of policing in America and the use of force. Then, the role of written policy during the reform era of American policing (1930s-1970s) is discussed, including the relative lack of attention towards regulating the use of force. Two major Court decisions are examined, as they have shaped recent developments in use of force policy. Next, empirical findings on predictors of the use of force are reviewed, including the limited set of research exploring the effectiveness of written policy at improving force-related outcomes. The policy characteristics advocated for by #8cantwait are assessed in detail, gaps in the evidence base for policy reform are reviewed, then this chapter culminates in an overview of this dissertation's purpose and contribution.

The third chapter, Methodology, describes the data sources, measures chosen to operationalize key concepts, sampling process, and analytic methods. The fourth chapter, Results, presents tables, figures, and text which describe sample characteristics and outputs of the analyses conducted. The final chapter, Discussion, interprets these findings, reports key limitations to the research design used, presents recommendations for practitioners and future researchers, then provides this dissertation's conclusion. The reference list, IRB approval, examples of all coding decisions, and author's full curriculum vitae are provided at the end of the document.

CHAPTER II

Literature Review

A Brief History of the Police Use of Force

Policing is a modern invention. The idea to establish a round-the-clock, public law enforcement institution blossomed in England during the late-18th and early-19th centuries in the context of major social, political, and economic developments (Bittner, 1970; Manning, 1997). The term "police" was applied to this nascent concept, imported from France and derived from the Greek root *polis*, meaning "city" (Manning, 1997, p. 48). Numerous legal reforms molded policing into the recognized profession it is today, spurred by innovators such as Henry Fielding, founder of the first detective force and Patrick Colquhoun, founder of the first preventive police force. In 1829, the first round-the-clock, public police force was established at Scotland Yard by statesman Sir Robert Peel. It soon became clear that more specific use-of-force policies were needed[1].

At the time of their formation, Peel's Metropolitan Police were equipped with wooden truncheons, a precursor impact weapon to modern batons, such as the PR-24 and ASP. In 1830, following numerous civilian complaints about the police use of truncheons, a policy was established to prohibit their use against people who were only directing verbal force at an officer (Pate & Fridell, 1993). In perhaps the first documented example of administrative policy improving a use-of-force related outcome, a reduction in complaints followed its enactment (Pate & Fridell, 1993).

[1] It is unclear whether any written policies regulated the use of force at the time of the Metropolitan Police's founding, other than the issuance of wooden truncheons to officers. Two of the nine "Principles of Policing" falsely ascribed to Peel deal explicitly with the use of force, however these were an invention of later historians and cannot be presumed to reflect official Metropolitan Police policy (Lentz & Chaires, 2007; for the principles, see Mayhall, 1985, pp. 425-426 adapted from Reith, 1952, p. 154).

The Metropolitan Police in London would soon recognize that the use of force is an issue that requires constant regulatory attention. Following a revolutionary wave across Europe from 1848 to 1849, some Metropolitan Police were equipped with cutlasses for night patrol, a short sword for slashing. As a tool for deadly force, strict policies were implemented surrounding their use, including termination of employment if an officer drew their cutlass unnecessarily (Pate & Fridell, 1993, p. 2).

This brief snapshot of the development of English policing and their prioritization of regulating the use of force is relevant to the present dissertation, a study of the use of force in the United States, as the English model of round-the-clock, professional public policing was soon imported to the United States. New York City adopted a full-time police force in 1844, followed by Chicago (1851), Philadelphia (1854), and Boston (1854; Manning, 1997). This importation was not a carbon copy, however, as the practice of policing in America diverged sharply from early operationalizations in England.

The political and social climate of the United States was and remains markedly different from that of England. A decentralized political structure, widespread civilian firearm ownership, the frontier spirit of individualism, ethnic pluralism, and the normative use of violence to resolve disputes molded American policing towards a different paradigm (Manning, 1997). Unlike their club-and-sword counterparts in England, American police carried firearms on patrol as early as 1857 (e.g., New York City; Geller & Scott, 1992, p. 248).

These well-armed, decentralized police primarily served the interests of their local political leaders and were notorious for corruption, brutality, and a lack of accountability. Police officers lacked civil service protections, so even in cases when police effectively

served their community, changes in local government often resulted in a complete turnover of agency personnel (Vollmer, 1933). For these reasons, the first several decades of policing in the United States are referred to as the "political era" (1840s – 1920s; Kelling & Moore, 1988).

The use of force during the political era was largely unregulated, and the consequences of this unprofessional era are perhaps best captured by the Wickersham Commission's *Report on Lawlessness in Law Enforcement* (Lemann et al., 1931). This scathing document, produced by President Hoover's National Commission on Law Observance and Enforcement, describes the widespread use of "the third degree" by police, that is "the employment of methods which inflict suffering … upon a person, in order to obtain from that person information about a crime" (Lemann et al., 1931, p. 8). This report, based on data collected across fifteen major cities, found that police brutality was widespread across case study sites (Lemann et al., 1931). While many state statutes at the time prohibited force beyond that which "is necessary and proper for [a suspect's] arrest and detention," there persisted an unwillingness to investigate, prosecute, or render verdicts against police (Lemann et al., 1931, p. 31).

Furthermore, the use of force was unevenly applied across social hierarchies. For the social, ethnic, and class interests represented by dominant political forces in an urban area, the police could be measurably helpful, staffing social services and maintaining close cooperative ties with the community (Kelling & Moore, 1988). For political, ethnic, and religious minorities in these areas, however, police treatment was markedly different. Slave patrols, the enforcement of Jim Crow, and election rigging are among the ways police arbitrarily applied force and the law to the detriment of those not respected by or

represented in the local political machine (Kelling & Moore, 1988; Vollmer, 1933; Williams & Murphy, 1990).

Reforming the Police: The Role of Written Policy

Three key figures were largely responsible for a shift away from the political era, laying a groundwork for regulating the use of force in the United States: August Vollmer, the legendary "father of American policing," J. Edgar Hoover, who transformed the FBI into a model of professionalism, and Vollmer's protégé O.W. Wilson, who developed the most influential text on police administration (Kelling & Moore, 1988; Oliver, 2017; Williams & Murphy, 1990).

They ushered in the Reform Era (1930s – 1970s), during which time police embraced the new technological age, a bureaucratic civil service model of administration, and replaced politics with criminal law as their main source of guidance. Police became motorized, dispatched by radio, and maintained increasingly sophisticated records systems, among other substantial reforms towards professionalism (Oliver, 2017; Vollmer, 1933). The term law enforcement became synonymous with police, as increased autonomy from politics[2] left the profession focused on crime control (Kelling & Moore, 1988).

Books such as O.W. Wilson's *Police Administration* provided a template for embracing the professional age, including the development of written policy to guide officer discretion and justify internal corrective action when police act inappropriately. Designing, implementing, and revising written policy serves as "a basis for the

[2] This does not mean that policing has become an apolitical profession. Even the most politically autonomous police agency is an inherently political enterprise, as the laws they enforce are produced by a political process. Furthermore, police administrators are typically appointed by political leadership (e.g., chiefs and commissioners) or run political campaigns to be elected by popular vote (e.g., sheriffs).

professionalization of the police," and is fundamental to contemporary police administration (Goldstein, 1967, pp. 1134-1135; IACP, n.d.).

The term policy is traditionally defined as general guidance on what to do, not how to specifically do it (Manning, 1997, p. 288; Wilson & McLaren, 1977, p. 84). The specifics of how to accomplish a task are typically taught in training, although the nature of police work mandates some degree of improvisational skill within the confines of policy and the law. In this sense, written policy communicates boundary lines to officers, so the range of discretionary options is constrained to only include practices approved by agency administration and incorporated into training. Policy clarifies ambiguities in the law so officers are not left to interpret for themselves what terms like objectively reasonable force mean, and discretion can be molded into predictable, desirable behavior (Goldstein, 1967; Uelmen, 1973). Written policy also communicates to the public what actions to expect from the police and what mechanisms of accountability exist if complaints are made and policies are violated (Alpert & MacDonald, 1994). This is important in a democratic society, as signing over the authority to use violence to the state demands a safeguard.

A lack of formal policy means officers must improvise in dynamic situations that can quickly rise to life-or-death stakes, such as what to do when presented with suspect resistance (Chapman, 1982). An axiom commonly attributed to the Greek poet Archilochus[3] is pertinent, "We don't rise to the level of our expectations, we fall to the level of our training." If officers are given the authority to use force and are equipped and

[3] It is unclear whether Archilochus, a Greek poet who lived from about 680 to 645 B.C.E., expressed this idea as is commonly claimed (Jacoby, 1941). For examples of the contemporary attribution of the axiom, see Feloni (2017), Johnson (2014, p. 4), and Wager (2023).

trained to kill, but policy is lax and unhelpful regarding when to use this power, split-second decisions are likely to produce an inappropriate level of force. Too much force, and police are excessive, repressive, and brutal. Too little force, and police can become casualties themselves (Chapman, 1982).

Policy design begins at the top, with the principal administrator (i.e., the chief or commissioner) serving as the "main architect of police officer's street behavior" (Skolnick & Fyfe, 1993, p. 136; Wilson & McLaren, 1977). Police leadership cannot abdicate this responsibility or defer it down to line-level officers. When street-level police are left to make their own "*sub rosa* codes of behavior," particularly regarding the use of force, a culture of excessive force may develop as in Los Angeles during the decades prior to the beating of Rodney King, and in Philadelphia during the tenure of Mayor and Police Commissioner Frank Rizzo (Skolnick & Fyfe, 1993, p. 137).

Even the best-designed policies are worthless absent a system of clear communication and robust supervision (Chapman, 1982; Geller & Scott, 1992; Lim & Lee, 2015; Skolnick & Fyfe, 1993; Wilson & McLaren, 1977). Police administrators must communicate policy, supervisors must understand and adhere to it, and officers who violate policy must be held to account. If at any point in the chain of command a policy is not adhered to, whether because it is not understood, not communicated, not respected, or does not reflect conditions in the field, it is as good as useless. Furthermore, policy messaging must be consistent. A police administrator cannot say there is no tolerance for brutality then reinforce an "us versus them" or "go get 'em" approach to policing (Geller & Scott, 1992, p. 407).

Written directives can be categorized by specificity. O.W. Wilson's book on police administration delineates four types: goals, policies, procedures, and rules (Wilson & McLaren, 1977, pp. 137-138). Contemporary use of force policies, sometimes called force application or response to resistance, contain directives across these categorizations of specificity.

Goals are measurable objectives, such as crime reduction and order maintenance. Policies are broad statements towards achieving these ends, such as statements on respecting the rights of people and applying force only in the most extreme circumstances. Procedures are more specific while still leaving room for discretion, such as using de-escalation techniques to diffuse conflict and warning a suspect prior to using force. Rules leave no room for discretion, such as outright prohibitions on chokeholds and requirements to announce via radio when a rifle is deployed. Contemporary calls for reform, such as the #8cantwait recommendations, typically constitute replacing broader policies and procedures with specific rules that eliminate officer discretion in use-of-force situations. These recommendations are discussed in detail in the Recommendations for Reform subsection.

Contemporary police policy manuals span hundreds of pages, ranging from commonplace employee manual content (e.g., compensation, appearance and grooming, substance testing) to operational conditions unique to policing (e.g., the use of force, body-worn cameras, and motor vehicle pursuits). Many agencies use the terminology recommended by O.W. Wilson, placing general and special orders into a duty manual or general order manual (Wilson & McLaren, 1977). Others use terms with a military origin, such as standard operating procedures (SOP).

As recommended by Wilson and McLaren (1977), large police agencies typically maintain a formal internal investigations team to handle alleged policy violations. Examples of these include internal affairs divisions and offices of professional standards, which record complaints, investigate them, and determine whether the complaint is sustained by evidence.

A Gap in Policymaking and Recordkeeping: The Use of Force

While policing during the early-to-mid 20th century was defined by increased professionalization and the enactment of written policy, use-of-force regulation was largely ignored by policymakers and academics. By the 1960s, the state of use-of-force policy remained remarkably shallow, constrained firmly to the broadest possible terms. One southwestern police department with over 100 sworn officers used the following as its guidance on lethal force: "Never take me out in anger, never put me back in disgrace [referring to firearms]" (White, 2001, p. 133). Other agencies used these similarly vague directives: "Leave the gun in the holster until you intend to use it," and "It is left to the discretion of each individual officer when and how to shoot" (Chapman, 1982, pp. 232-233; Geller & Scott, 1992, p. 252; White, 2001, p. 133). A 1961 firearms policy survey in Michigan indicated that many departments had no written policy at all, relying instead on oral tradition (Chapman, 1982).

The lack of robust written policy which characterizes the political and reform eras should not be interpreted to mean there were no policies in place in those days. Policies are inherently broad and do not require a formal, written component. Even having no stated policy to regulate behavior is still a policy, to say nothing of the numerous informal directives on force which existed and were imparted to officers through the

spoken word (Manning, 1997; Uelmen, 1973). In a factory environment with no written safety directives, posted signs, or personal protective equipment, there is still a clear policy on safety: a safe work environment is unimportant.

Spurred by substantial civil disturbances during the 1960s, increased attention was paid to the use of force. Writing in 1967, one scholar described the state of use-of-force policy to be “absurd” and “disturbing,” “do[ing] nothing to protect life” (Chapman, 1982, pp. 224-228). The lack of administrative controls on force stood in stark contrast to police policy on other issues, such as uniform codes, how to allocate officers for patrol duty, and what equipment to carry, which proliferated by this point and commonly prohibited any officer discretion (Goldstein, 1967).

O.W. Wilson, champion of police reform, wrote basically nothing about the use of force in his book on police administration (Fyfe, 1988). Even by its fourth edition (Wilson & McLaren, 1977), no space was dedicated to discussing the use of force, beyond technical concerns like choosing calibers of ammunition and properly maintaining issued weapons. Entire sections on the roles and responsibilities of the police, the use of policy to shape behavior, and the discussion of force-related equipment like firearms and less-lethal weapons offer no guidance on the measurement, assessment, and regulation of discretionary force.

Meanwhile, political attention towards this issue increased as civil disturbances mounted and clashes with law enforcement became more commonplace. In the context of the Civil Rights Era, it became increasingly perplexing to see police agencies seeking greater cooperation from the public while failing to moderate perhaps their gravest discretionary power. In 1968, the National Advisory Commission on Civil Disorders

found that many of the most destructive civil disturbances were precipitated largely by unjustified police shootings and acts of excessive force. Lyndon B. Johnson's Commission on Law Enforcement and Administration of Justice recommended that departments develop specific deadly force policies, clearly restricting the use of firearms "to situations of strong and compelling need" (1967, p. 189).

The lack of police administrative focus on the use of force drew increased attention from scholars throughout the 1970s. Bittner (1970) and Goldstein (1979) stated that the police authority to use force is a necessary and defining characteristic of police work and found it undesirable that this core authority was held without regulation, oversight, and data collection.

Police administrators provided reasons for not having more specific and restrictive deadly force policies. These reasons largely fell into three distinct categories (Fyfe, 1981; Geller & Scott, 1992). First, chiefs were reluctant to seem soft on crime by restricting police discretion in ways that could be interpreted to favor criminals. Second, they did not want to increase their perceived civil liability when an officer inevitably violates policy (see also Uelmen, 1973, pp. 23-26). Third, they did not want to be perceived as overriding the will of the people as expressed by legislation, interpreting a lack of democratic action to restrict force as an endorsement of lax treatment of this issue. In smaller communities, police leaders commonly discarded the issue of regulating deadly force as "a big city problem" that small agencies never face (Fyfe, 1982b, p. 8).

During the 1980s, scholars called for clearer policy guidelines for deadly force, thorough and transparent reporting, and suggested that a reduction of violence should be a goal of use-of-force policies (Fyfe, 1981, p. 388). Fyfe (1982a) highlighted a double-

standard in the criminal justice system's treatment of deadly force, as there existed strict and comprehensive guidelines on deadly force as punishment for convicted criminals (i.e., executions), while the police use of deadly force to seize suspects who are innocent until proven guilty was left to an officer's broad discretion.

Police administrators stood firm. Even if their agencies had use of force policies and kept records about when force was used, many would not release them even to their own local governments for fear of litigation or criminal adaptation to their tactics (Geller & Scott, 1992). Before police agencies took significant action to measure, assess, or regulate force applications, the Supreme Court became involved.

Landmark Supreme Court Decisions

During the 1980s, two major Supreme Court decisions altered the legal landscape around the use of force. These cases are now reviewed, as each informs contemporary police policies.

Deadly Force on Fleeing Felons: Tennessee v. Garner*, 1985*

Prior to 1985, if the police had probable cause to arrest a felony suspect, they could use deadly force to prevent the suspect's escape regardless of suspect, offense, or situational characteristics. The right to shoot fleeing felony suspects was inherited from English common law tradition, during which time felonies were, by definition, all punishable by death (Fyfe, 1981, 1988). To mitigate the risk of a deadly hand-to-hand encounter with a non-compliant felony suspect who may fight to the death in desperation, the English common law standard empowered police to use any means necessary to effect a felony arrest.

This traditional right was imported by early American police in the mid-19th century, but the different circumstances of American policing presented immediate concerns. As was previously discussed, American police were equipped with firearms from the start, unlike their English counterparts. The practice of arming American police with guns was justified based on widespread gun ownership by the public, which presented police with a greater risk of encountering lethal resistance than in England where firearm ownership was uncommon. Despite this rationale, the *New York Times* decried using guns to shoot down fleeing felons as early as 1858. They applied criticism since guns rendered obsolete the danger of fighting a fleeing suspect in hand-to-hand combat, and using firearms to shoot fleeing felons seemed a disproportionate use of force relative to the low threat presented by most non-violent felony suspects (Geller & Scott, 1992, p. 249). Furthermore, the practice of sentencing all convicted felons to death was not a part of contemporary American law as it had been in England.

As the 20th century progressed, fewer and fewer felonies were still punishable by execution. It became increasingly perceived as unjust to shoot a suspect to death for crimes they could not even be put to death for if found guilty. This argument was presented as early as 1931, as Mikell asked "… what are we killing [a suspect] for when he steals an automobile [a felony punishable at most by a 3-year prison sentence] and runs off with it [a misdemeanor]?" (American Law Institute, 1931, pp. 186-187 as cited in Fyfe, 1988, p. 170).

By 1985, 29 states had outlawed the practice, and only 13% of agencies in large cities (>250,000 people) still permitted police to use deadly force to prevent the escape of any fleeing felon (Fyfe, 1981, 1988; Walker & Fridell, 1992). One such permissive legal

environment was present in Tennessee state law and Memphis Police policy. Following the shooting death of an unarmed, 15-year-old Black child suspected of burglary by Memphis Police, the constitutionality of shooting fleeing felons was challenged in court. Following conflicting decisions in lower courts, the Supreme Court granted certiorari. In 1985, they decided on *Tennessee v. Garner*.

In a 6-3 ruling, the Court held that the use of force is a seizure under the Fourth Amendment, and police cannot use deadly force to apprehend fleeing felons if the officer lacks probable cause to believe that the suspect poses a significant threat of death or injury to the officer or others. In short, the *Garner* decision meant that America's inherited common law practice of shooting any fleeing felon was unconstitutional.

Police policies and training on use of force would have to change to reflect this new legal landscape, prohibiting the use of deadly force on non-violent felony suspects (Walker & Fridell, 1992). Police shootings soon declined by 16%, with greater reductions in states that had permitted shooting any fleeing felon prior to *Garner* (Tennenbaum, 1994). One study found, however, that a majority (69.8%) of the largest municipal police agencies already prohibited shooting at all fleeing felons, so the *Garner* decision did not require most agencies to adopt more restrictive policy characteristics (Walker & Fridell, 1992, p. 101).

Determining Excessive Force: **Graham v. Connor,** ***1989***

The second significant ruling on the use of force occurred in 1989, as the Court ruled on *Graham v. Connor.* Prior to 1989, excessive force was determined by a substantive due process shocking to the conscience standard from *Johnson v. Glick* (1973), a case decided by the Second Circuit. This standard presented a four-prong test to

determine whether force was excessive: “the need for force, the relationship between the need for force and amount of force used, the extent of injury caused, and whether force was applied maliciously and sadistically for the very purpose of causing harm” (*Johnson v. Glick*, 1973). The first three standards were relatively easy to determine based on observable evidence. The fourth standard, however, accounted for the subjective mental state of the officer and required proof of an exceptionally high standard of ill-intent (i.e., malicious *and* sadistic *and* to purposely cause harm; Alpert & Smith, 1994b). This proved exceptionally difficult to demonstrate in court, and not all federal districts adhered to this standard.

When a diabetic Black man suspected of theft was beaten by Charlotte police while resisting involuntarily during an insulin reaction, a section 1983 suit alleging excessive force encountered the brick wall presented by *Johnson v. Glick* (1973). Following several appeals, the Court granted certiorari, agreeing to review the *Johnson* standard and consider an alternative excessive force standard rooted in the Fourth Amendment.

In a unanimous decision, the Court decided in *Graham v. Connor* (1989) to scrap the four-prong *Johnson* test, replacing it with an objective reasonableness standard based on the Fourth Amendment, since the use of force is a seizure. Instead of considering the subjective intent of an officer accused of excessive force, which experience revealed to be an impossible task, the *Graham* decision requires courts to consider whether a force response aligns with how a hypothetical reasonable officer with similar experience and training would have behaved in similar circumstances, without the benefit of hindsight.

In determining objectively reasonable force based on what a hypothetical reasonable officer would have done, a court must consider the totality of the circumstances, a test used for other aspects of Fourth Amendment protections against unlawful search and seizure (Kahn-Fogel, 2021). This requires an officer, in deciding on a level of force, to balance the severity of suspected crime, the threat posed by the suspect to the officers and others, and whether the suspect is actively resisting or attempting to evade.

The *Graham* standard, while regarded as an improvement over the *Johnson* standard, is not without issue itself (Alpert & Smith, 1994b; Atherley & Hickman, 2014; Mourtgos & Adams, 2020). For one, police, courts, and the community rarely agree about what a reasonable officer would have done without the benefit of hindsight. While the *Graham* standard is referred to as objective reasonableness, it requires a substantial amount of subjective thinking. Furthermore, the public often holds inconsistent expectations of police force, expecting aggression in some situations and restraint in others (Alpert & Smith, 1994b). Regardless, the *Graham* standard positively impacted police policy, contributing to increased specificity and more comprehensive training (Ross, 2002). It further cemented the holding in *Tennessee v. Garner* (1985) that the use of force is a seizure covered by Fourth Amendment protections.

Prior Empirical Findings

Following the two landmark Court decisions there was a rapid expansion in use-of-force policymaking and data collection. Academic research in this area accelerated, spurred further by excessive force incidents which gripped the nation, such as the beating of Rodney King (1991, Los Angeles) and resulting riots (Geller & Scott, 1992; Skolnick

& Fyfe, 1993). By the mid-1990s, the proportion of agencies that documented their use of force and reviewed serious force incidents had grown substantially (Geller & Scott, 1992; Pate & Fridell, 1993). There was finally enough data to begin exploring predictors of the use of force at the individual (e.g., incident, suspect, or officer) and community levels of analysis, although incompatible data still prohibited inter-agency comparisons.

Findings from these past few decades of use-of-force research are now reviewed to illustrate what is known empirically about this topic. First, general correlates of the use of force are reviewed in the Use of Force Predictors subsection. This body of empirical findings informs some aspects of the current dissertation's research design, particularly variable selection. The next subsection, Impact of Written Policy, narrows to focus exclusively on the impact of written policy in shaping use-of-force outcomes. That subsection provides a basis for hypotheses and highlights gaps for the current dissertation to address. The final subsection, Recommendations for Policy Reform: #8cantwait, provides further background on Campaign Zero's call to implement eight specific, restrictive use-of-force policy changes to reduce use-of-force incidents.

Use of Force Predictors

Research consistently indicates that encounter characteristics are the strongest predictors of use of force incidents (Adams, 2001; Klahm & Tillyer, 2010; Pate & Fridell, 1993; Riksheim & Chermak, 1993). These findings are solidified by a meta-analysis of 44 individual-level analyses, which consider encounter, suspect, officer, and community characteristics (Bolger, 2015). Particularly impactful encounter characteristics include an officer's decision to arrest, suspected offense seriousness, and suspect resistance (Bolger, 2015). Proactive (i.e., police-initiated) incidents, situations

involving citizen conflict, and encounters involving more officers also predict the use of force. These findings are expected, given the more confrontational and dangerous nature of these encounters.

Importantly, Bolger (2015) found that encounter characteristics are more impactful predictors of the use of force than suspect and officer characteristics. This is an encouraging finding for police administrators, as the use of force should be predicated on legally relevant factors, such as probable cause to seize a resisting suspect based on a totality of the circumstances. More recent studies uphold these findings, reaffirming that encounter-specific factors most strongly predict an officer's decision to use force (Kim et al., 2021; Lee, 2016).

There are a few officer characteristics which significantly, albeit weakly, predict the use of force. Studies indicate that male officers use more force than female officers and apply a wider range of force responses when faced with a given level of suspect resistance (Bazley et al., 2007; Bolger, 2015). For this reason, comparative agency-level research like the current dissertation should account for the proportion of male to female officers. Research also indicates that more experienced and educated officers use less force (Paoline & Terrill, 2007; Rydberg & Terrill, 2010).

Policy characteristics were not assessed by the studies included in Bolger's landmark meta-analysis (2015). Bolger's findings suggest, however, that policy reform is a more promising method for improving use-of-force outcomes than alternatives such as changing hiring practices (Bolger, 2015, p. 486). Policy shapes discretionary behaviors that are linked to encounter characteristics (i.e., what to do when a suspect resists arrest). If these characteristics are the most powerful predictors of use-of-force outcomes, then

policy reform should have a greater effect on use-of-force outcomes than altering the balance of officer characteristics or proportion of minorities who interact with police.

Researchers have also examined the relationship between social environment and use-of-force outcomes. Police use-of-force behavior varies depending on neighborhood-contextual factors (Smith, 1986; Terrill & Reisig, 2003). Decades prior, two theoretical perspectives emerged which provide possible explanations for observed differences in the use of force between communities, Blalock's (1976) minority threat hypothesis and Klinger's (1997) vigor hypothesis.

Blalock (1976) suggests that police use harsher social controls in jurisdictions with larger and faster-growing minority populations, as majority groups may interpret minority growth as a threat to their social dominance. Scholars contextualizing Blalock's work to the use of force hypothesize that suspects in predominately minority areas will have more force used against them (Smith, 1986), and that, in areas with growing minority populations, minority suspects are more likely to experience force while White officers are more likely to apply it (Lawton, 2007).

As it relates to the use of force, support for Blalock's (1976) minority threat is limited. Smith and Holmes (2014) found marginal support, primarily in places that have a high degree of black segregation. These results were not robust enough to attain significance in a multi-level model, however, reaffirming that individual-level factors most strongly predict the use of force. Testing Australian data, McCarthy and colleagues (2019b) found similar results.

In an analysis of NYPD stop-and-frisk data, Morrow and colleagues (2018) observed that concentrations of racial and ethnic minority residents did not increase the

likelihood of force, although minority residents did experience more force than their White neighbors. This study found some support for the out-of-place conceptualization of minority threat, as Black residents were slightly less likely than Whites to experience weaponless force as the concentration of Black residents in a neighborhood increased. Hispanic residents were more likely to experience force as the percentage of Hispanics increased in a neighborhood, indicating that minority threat in the use-of-force context may apply more to this minority population than others. Other studies of the out-of-place hypothesis suggest that this may be a better model of police behavior than more traditional conceptualizations of minority threat. Smith (1986) observed that suspects in more disadvantaged settings were three times more likely to be arrested, and Terrill and Reisig (2003) observed a similar relationship with the level of force used by police. While a suspect's race may be strongly correlated with use-of-force decisions at a bivariate level, the impact of this individual-level characteristic is mediated by neighborhood contextual factors (Terrill & Reisig, 2003).

Klinger (1997) presents the other predominant macro-level theory which is applied to the use-of-force, the vigor hypothesis. This perspective posits that community-level variation in police discretionary behavior is due in part to community-level variation in rates of crime and deviance. Building upon the Durkheimian (1938) concept of equilibration in punishment, Klinger suggests that when the crime rate is high, police will only respond vigorously to the most serious offenses. Conversely, in a community context where crime is uncommon, police will respond with vigor even to slight infractions. This implies that the frequency and severity of force used by police will vary in part due to officer workload, cynicism, the perceived deservedness of victims, and

constructions of normal versus deviant deviance (Lee, 2016). In communities with high crime rates, officer workload and cynicism are likely to be higher, respect for residents may be lower, and less serious crimes will be so commonplace that enforcement actions are not vigorously pursued.

As with Blalock's theory, support for Klinger's (1997) work as it applies to the use of force is mixed. Klinger and colleagues (2016) observed an inverse quadratic relationship between neighborhood-level gun violence and police shootings in St. Louis. In neighborhoods with the lowest and highest rates of gun violence, they found that the frequency of police shootings was lower than in neighborhoods with intermediate levels of gun violence. It is plausible that officer awareness of the dangers inherent to responding to calls for service in high-gun violence neighborhoods heightens their awareness and attentiveness while policing these settings, decreasing their use of deadly force (Klinger et al., 2016, p. 213).

In examining less-lethal force, however, a linear relationship is more commonly observed, but not in the direction theorized by Klinger (1997). Several studies indicate a positive relationship between violent crime rate and force (Alpert & MacDonald, 2001; Lee et al., 2010; McCarthy et al., 2019b). Terrill and Reisig (2003) found a positive relationship between homicide rate and level of force used by police, and Lawton (2007), using hierarchical linear modeling, also found no support for Klinger's hypothesis. Klinger (1997) offers a possible explanation, noting that some uses of force may not constitute a vigorous response. For example, compared to an immediate arrest, police may regard using physical force to de-escalate a situation without making an arrest as a less vigorous course of action (Terrill & Reisig, 2003, p. 296). Furthermore, the vigor

hypothesis was developed at the police district unit of analysis, not smaller neighborhood, census tract, or police beat units of analysis (Klinger, 1997; Terrill & Reisig, 2003).

Since encounter characteristics, particularly suspect resistance, demeanor, and intoxication, exert such a powerful influence on whether an officer will use force, some scholars posit that macro-level variation in the use of force is partially the result of macro-level variation in suspect behavior. McCarthy and colleagues (2019a) observed that, in Australia, more threatening suspect presentations (e.g., alcohol intoxication, apparent mental disorder, fleeing police, possession of weapon) concentrate geographically, and the same is likely true in the United States. This could explain, in part, community-level differences in the use of force.

Some findings suggest that use of force outcomes vary by place because places themselves are fundamentally different in ways officers are aware of. Arrests conducted at night and in locations known to be hazardous correlate with a greater likelihood of force (Crawford & Burns, 2008; Lee, 2016). These findings align with Sherman's (1980) hypothesis that the ways police interpret and perform their role are influenced by contextual characteristics.

Impact of Written Policy

Some say that administrative policy is the best way to control discretionary police behavior (Alpert & Smith, 1994a; Davis, 1971). Others say it is at least a promising strategy to control police use of force (Geller & Scott, 1992, p. 405). While research in this area is relatively nascent given an historical lack of written policy, transparency surrounding the policies which do exist, and reliable data, there are numerous studies which inform the current dissertation's design and expectations. In total, research

indicates that detailed and restrictive use-of-force policies are associated with fewer uses of force.

Perhaps the first such study was conducted by Uelmen[4] (1973) in Los Angeles County. He examined the deadly force policies of fifty police agencies, categorizing them by restrictiveness. The restrictive elements he examined include prohibitions on deadly force against juveniles, non-violent felony suspects, and in situations other than an immediate defense of life. A bivariate analysis of the relationship between restrictiveness and rate of police shooting incidents indicate that departments with the most restrictive policies have fewer than half as many officer-involved shootings as departments with the least restrictive policies. Uelmen's findings suggest that using written policy to restrict police use-of-force behavior can provide significant benefits.

Another early use-of-force researcher, James J. Fyfe, made similar discoveries elsewhere. The rate of deadly force declined after the New York Police Department adopted more restrictive deadly force and officer-involved-shooting review policies in 1972 (Fyfe, 1982a). Warning shots, shots fired at fleeing felons, and gunshot related injuries and deaths substantially declined across the four-year study period. Crucially, in contrast to the concerns of some at the time, these restraints on police discretion and reductions in police uses of force did not correlate with increases in officer injury or death.

These results were replicated across the country (Walker, 1993). Sherman (1983) found that a more restrictive policy in Kansas City substantially reduced police shootings of unarmed, fleeing people. A Dallas Police Department analysis revealed that their more

[4] Several use-of-force studies erroneously cite Gerald F. Uelmen's last name as "Uelman" (e.g., Fyfe, 1981; Fyfe, 1988; Pate & Fridell, 1993).

restrictive 1984 and 1989 use of force policies immediately preceded substantial declines in shots fired at people and moving vehicles (Geller & Scott, 1992). Their restrictions prohibited the use of deadly force to protect property, added a statement about reverence for life, advised officers not to get in front of oncoming vehicles, and established a firearms discharge review board.

Modifying adjacent directives, such as vehicle pursuit policies, yields similar results, while the relaxing of these policies often increases undesirable outcomes (Alpert, 1997; Hansen et al., 2015). At times, however, relaxing a use-of-force policy can produce benefits when it provides better less-lethal options to police. Ferdik and colleagues' (2014) survey of 259 police agencies found that less restrictive electronic weapon policies (i.e., TASER) increase the usage of these weapons but, more importantly, lower fatal shootings. The decision to relax use-of-force policy restrictions must be made carefully, as one recent study suggests a relaxed electronic weapon policy contributes to an increase in all forms of less-lethal force (Rockwell et al., 2020).

Few available, peer-reviewed studies provide anything less than positive findings about adopting more specific and restrictive use-of-force policies. One notable exception reaffirms the importance of robust supervision and consistent policy messaging across the chain of command if a written policy is to achieve intended goals. An analysis of deadly-force policy changes in Philadelphia during the 1970s produced mixed findings in wildly varying contexts of police leadership (White, 2001). In 1973, Philadelphia police implemented a more restrictive deadly force policy by replacing a shoot any fleeing felon standard with an immediate defense of life requirement. Instead of reducing officer-involved shootings as had happened elsewhere, this policy change preceded an increase

in the use of deadly force. Researchers attribute the failure of this policy to achieve its intended goals to Mayor Frank Rizzo, who summarized his approach to policing as *spacco il cappa*, Italian American slang for "bust their heads" (White, 2001, p. 135).

A year later, the policy was abolished entirely, and police shootings further increased. Following Mayor Rizzo's retirement in 1979, a more reform-oriented police commissioner was appointed, and the use-of-force policy was re-implemented. Under more progressive leadership, the same policy that produced an increase in deadly force in 1973 preceded a substantial and lasting decline in shootings by Philadelphia police throughout the 1980s.

By 2007, nearly all (97%) of police agencies had a written use-of-force policy (Terrill & Paoline, 2012, 2017, 2018a). Given the decentralized nature of American policing, the length and characteristics of contemporary policies vary widely, typically reflecting evolving legal standards but not empirical findings about what constitutes best practice (Terrill & Paoline, 2013a). This is due in part to the paucity of contemporary studies about the impact of specific policy choices. Recent studies in the United States and other democracies are typically restricted to broader conceptualizations of restrictive versus permissive policy environments. These contemporary studies still support prior findings about the consistent relationship between restrictive, detailed use-of-force policies and reductions in the use of force.

Two studies of electronic weapon policy found that more restrictions, such as placing electronic weapons higher on a force continuum (i.e., only to be used against active resistance, not passive resistance), are associated with fewer uses of this equipment (Bishopp et al., 2015; Thomas et al., 2010). Prenzler and colleagues (2013) examined

seven case studies of policy reform from the United States, Australia, and United Kingdom, finding that more comprehensive and restrictive policy decisions improve a variety of use-of-force outcomes. In a rare example of incident-level work which makes comparisons between agencies, Terrill and Paoline (2017) studied the relationship between less lethal use-of-force policy and outcomes. They find that a more restrictive and explicit use-of-force continuum in one agency produces fewer force applications compared to more permissive continuums in two other sites.

This dissertation now directs its attention to recent calls for policy reform and the #8cantwait movement. Following a brief synopsis of recent use-of-force reform suggestions, definitions and evidence for each of #8cantwait's policy suggestions are reviewed. These eight suggestions form the basis of the current dissertation's examination of the relationship between use-of-force policy characteristics and use-of-force outcomes, as adoption of these recommendations varies substantially.

Recommendations for Policy Reform: #8cantwait

Public confidence in the police to avoid excessive force and treat White and Black people equally, among other indicators of confidence in the police, have declined substantially since 2014, the year in which Michael Brown, an 18-year-old Black man, was shot to death by a White police officer in Ferguson, Missouri (Berman & Clement, 2023). While the officer who shot Brown was not indicted and a U.S. Department of Justice investigation indicated the shooting was in self-defense, the incident ignited decades of racial tension and distrust of police (Davey & Bosman, 2014; U.S. Department of Justice, 2015). The day after the shooting, protests and riots began in Ferguson, foreshadowing a decade of publicly reported, legally questionable uses of

deadly force, commonly by White police towards unarmed Black suspects (Chicago Tribune, 2014).

Proposed solutions to reduce the use of force by police range widely. It is difficult to reach a consensus on reform when people regularly disagree on how to interpret basic visual evidence of a use-of-force encounter (Hickman et al., 2015) or disapprove of using physical force on any adult, male suspect for any reason, as 30.1% of respondents indicated in a recent wave of the General Social Survey (Mourtgos & Adams, 2020). Public perception of the use of force is strongly related to powerful social axes in the United States, including nativity, gender, race, education, income, and strongly held opinions, including racism and political views (Simon et al., 2021).

Community-oriented strategies of informal and formal community engagement strategies have been ineffective at reducing force (McCarthy et al., 2019c). On the other hand, more substantial calls for reform, such as defunding the police to decrease officer-citizen interactions and divest funding towards social services, have rarely received political buy-in and have not demonstrated desired effects (Gross & Eligon, 2020; Londoño, 2023).

One moderate suggestion that received public attention and attained buy-in from police administrators is the revision of use-of-force policy to constrain officer discretion. Writing in the 1960s, Chapman (1982) suggested that written policies should reflect the will of the people and offer clear guidelines about commonly encountered situations. In police work, fleeing and resisting suspects are common enough to merit this degree of attention. When state and federal law offer no guidance on tactics like shooting at motor vehicles or applying neck restraints, it is up to police administrators to decide whether to

prohibit these forms of discretionary behavior. If Americans are losing confidence in the police, especially their ability to use force appropriately, it makes some degree of sense to consider these policy changes.

In a democracy where the authority to use force has been voluntarily handed to the state through the social contract, police are expected to respond promptly to disorder and resolve it in a way that reflects local conditions, beliefs, and values (Manning, 1997). If communities feel that the police are too violent, an agency that continues to apply force with greater regularity and severity than the community deems appropriate is bound to alienate the public. Reforming policy to better align with community beliefs, especially when these reforms do not violate established law or compromise officer safety, may improve public perceptions of the police. Perhaps more importantly to the public, these reforms may reduce the use of force, and minimize the number of people injured and killed by police.

Campaign Zero, a police reform initiative established in 2015, was founded with the goal of reducing the amount of people killed by police. Following the murder of George Floyd by a Minneapolis Police officer in 2020, Campaign Zero launched an initiative titled #8cantwait, named after eight specific policy recommendations which are marketed to state legislators, local governments, and police administrators. These recommendations circulated widely in traditional and social media (Earl, 2020) and police agencies nationwide issued statements and revised policies to better comply with #8cantwait suggestions (Associated Press, 2020).

The #8cantwait reforms form the basis of the current dissertation's analysis of the relationship between use-of-force policy characteristics and outcomes. Beyond their

recent popularity among the public and police administrators, these reforms are chosen because they reflect a substantial source of variation in police use-of-force policy. Nearly all police agencies have written policies which include requirements to document force applications, prohibit outdated practices like warning shots, and reference Court rulings that the level of force should be objectively reasonable based on a totality of the circumstances (*Graham v. Connor*, 1989). In other areas, however, use-of-force policies still vary widely, and there is no clear consensus on many of the #8cantwait reforms. The lack of consensus in adopting these policy changes provides sufficient variation to compare the use-of-force outcomes of agencies at various levels of compliance with #8cantwait's more specific, actionable restrictions on police discretion.

Definitions of, and research on, the eight recommended policy changes are now reviewed in no particular order, as they are arranged by Campaign Zero in an unordered 2x4 matrix (Campaign Zero, n.d.).

Require De-escalation. Campaign Zero defines this as "[requiring] officers to de-escalate situations, where possible, by communicating with subjects, maintaining distance, and otherwise eliminating the need to use force" (Campaign Zero, n.d.). The evidence base for this suggestion is limited by a lack of studies, however initial indications are positive.

Emphasizing de-escalation in policies and trainings is one of the five "specific action steps" advocated for by President Obama's Task Force on 21st Century Policing to improve police-community relationships (Office of Community Oriented Policing Services, 2015, p. 9). A recent randomized-controlled trial evaluating the impact of de-escalation training indicated effectiveness at improving use-of-force outcomes.

Compared to control conditions, Engel and colleagues (2022) observed substantial declines in use-of-force incidents (26%), citizen injuries (28%), and officer injuries (36%). This suggests that de-escalation is effective at improving use-of-force related outcomes.

Atherley and Hickman (2014) identified that officers often struggle to disengage and de-escalate volatile situations, sometimes citing a fear that backing down may set a precent that suspect resistance works. While aggressive police actions can unnecessarily escalate dynamic situations into needlessly violent and deadly encounters, police administrators may hesitate to require de-escalation tactics since quick-thinking violent actions by officers can sometimes save lives (Atherly & Hickman, 2014, p. 132).

Require Use-of-force Continuum. Campaign Zero defines this as "[establishing] a Force Continuum that restricts the most severe types of force to the most extreme situations and creates clear policy restrictions on the use of each police weapon and tactic." (Campaign Zero, n.d.). The evidence base for this reform suggestion is scant, although this practice is subject to substantial criticism.

Use of force continuums are ordered categories of force options, escalating from a lack of force (e.g., officer presence), to verbal commands, physical force, intermediate weapons (e.g., electronic, chemical, and impact weapons), then deadly force. This method of organizing force options is typically matched to varying levels of suspect resistance. Continuums are intended to provide clarity to officers on which techniques they can use in situations which necessitate different levels of coercive force. These continuums became more commonplace in use-of-force policy and training throughout

the 1980s and 1990s (Connor, 1991; Geller & Scott, 1992), and by 2007 most agencies (73%) used a linear continuum (Terrill & Paoline, 2012).

The inclusion of continuums in policy and training is subject to criticism on several grounds. For one, use-of-force continuums are almost always predicated solely on suspect resistance, which hardly reflects the totality of the circumstances standard of determining objectively reasonable force per *Graham v. Connor* (1989; McLean et al., 2023). Continuums which only match force options to levels of suspect resistance fail to consider a suspect's ability, opportunity, and intent to harm an officer or other person. Under most contemporary continuums, an elderly suspect who pushes a police officer (i.e., active resistance) could be subject to any level of force except for deadly force, including being tackled to the ground, tased, pepper-sprayed, and struck by batons. While these actions would conform to police policy, they may appear unjust and constitute objectively unreasonable, disproportionate responses to the suspect's true threat and intent (Bennell et al., 2021; McLean et al., 2023).

Another issue with use-of-force continuums is the difficulty of determining where to place specific intermediate weapons in relation to suspect resistance. Terrill and Paoline (2012) find that some agencies consider chemical and electronic weapons to be suitable responses to verbal resistance, while others restrict these techniques to serious active resistance. These decisions are not trivial, as altering the balance of physical force and intermediate weapons significantly affects rates of suspect and officer injury (Mourtgos et al., 2022; Smith et al., 2010). Finally, some criticisms of force continuums come from police themselves, who fear liability issues and restrictions on discretion

which are greater than those minimally required by law (Mourtgos et al., 2022; Terrill & Paoline, 2012).

Ban Chokeholds and Strangleholds. Campaign Zero defines this as "[b]oth chokeholds and all other neck restraints must be banned in all cases." (Campaign Zero, n.d.). The evidence base for this reform suggestion is mixed.

The murder of George Floyd by a police neck restraint has reignited interest in banning this form of force. Geller and Scott (1992) identified that arm bars and other restraints which restrict the airway were widely prohibited by the early 1990s, while carotid restraints and lateral vascular neck restraints (i.e., sleeper holds) were commonly trained force techniques. The form of neck restraint used to kill George Floyd (i.e., a knee on the neck) specifically restricts the airway and is not a typically permitted or trained use of force.

Research on the benefits of banning all forms of neck restraints are mixed. One study of the use of vascular neck restraints, which are designed to cause unconsciousness but not restrict breathing, indicated no fatalities across 230 applications (Hickman et al., 2021). A recent study of 944 field applications across three police agencies indicated no deaths or serious injuries, and few minor injuries (0.95%; Bozeman et al., 2022). These studies suggest banning all neck restraints in all cases would have no significant effect on suspect injuries or deaths.

Another recent study finds support for the policy recommendation to ban neck restraints, however, as a negative association is observed between suspect deaths and neck restraint bans in a multivariate, nationwide analysis of municipal agencies (Beck et

al., 2024). Taken together, research on the effectiveness of banning all neck restraints provides an unclear direction for policymakers.

Require Warning Before Deadly Force. Campaign Zero defines this as "[requiring] officers to give a verbal warning in all situations before using deadly force." (Campaign Zero, n.d.). There have been no published, peer-reviewed studies on the effects of requiring officers to give a verbal warning in all situations prior to using deadly force. *Tennessee v. Garner* (1989, pp. 11-12) currently requires police to, "where feasible," give "some warning" before using deadly force.

Ban Shooting at Moving Vehicles. Campaign Zero defines this as "[banning] officers from shooting at moving vehicles in all cases…" (Campaign Zero, n.d.). The evidence base for this reform suggestion is scant.

Police agencies have observed that shooting at moving vehicles is often ineffective due to a myriad of reasons, including that moving vehicles can remain dangerous even when the operator is neutralized (Geller & Scott, 1992, pp. 257-258). Campaign Zero notes that while many agencies currently discourage the practice of shooting at moving vehicles, the reluctance to prohibit officers from shooting at moving vehicles in all cases contributes to unnecessary suspect deaths (Campaign Zero, n.d.).

It is unlikely that agencies will explicitly prohibit shooting at moving vehicles in all circumstances, due in part due to recent "ramming attacks" in the United States and abroad where vehicles are used intentionally as weapons. Furthermore, if suspects are firing guns from a moving vehicle, it is unclear how police should incapacitate this threat without the use of deadly force. Regardless, there have not been any publicly available, peer-reviewed studies which inform this policy suggestion.

Requires Exhaust all Alternatives Before Deadly Force. Campaign Zero defines this as "[requiring] officers to exhaust all other alternatives, including non-force and less lethal force options, prior to resorting to deadly force." (Campaign Zero, n.d.). There have not been any publicly available, peer-reviewed studies which inform this policy suggestion.

Duty to Intervene. Campaign Zero defines this as "[requiring] officers to intervene and stop excessive force used by other officers and report these incidents immediately to a supervisor." (Campaign Zero, n.d.). The evidence base for this suggestion is limited by a lack of studies, however initial indications are positive.

One study of thirty municipal agencies finds that, while there is no association between duty-to-intervene practices and suspect deaths, these policies predict more formal charges related to suspect deaths and fewer suspect deaths in encounters with multiple officers (Jones-Brown et al., 2021). These findings suggest that duty-to-intervene policies may improve accountability for officers who kill suspects and reduce the likelihood of suspect deaths in situations where officers outnumber the suspect.

Require Comprehensive Reporting. Campaign Zero defines this as "[requiring] officers to report each time they use force or threaten to use force against civilians." (Campaign Zero, n.d.). The evidence base for this suggestion is limited by a lack of studies, however initial indications are positive.

An analysis of the Fatal Encounters database, a crowdsourced repository of police-involved gun deaths, finds a significant, negative association between show-of-force report requirements and rates of police shootings (Jennings & Rubado, 2017). Shjarback and colleagues (2021) studied sixteen years of officer-involved shooting data

from the Dallas Police Department, observing that a policy change requiring officers to report when they point firearms at suspects preceded a reduction in shootings and lowered the proportion of "threat perception failure" shootings where officers mistake benign objects as weapons. These studies suggest that requirements to report shows of force, not just applications of force, may contribute to officers exercising more care when deciding whether to draw and use their firearm in dynamic situations.

A Limited Study of #8cantwait. With the eight recommendations defined and research specific to each one examined, the study which most directly informs the current dissertation is now reviewed. Samuel Sinyangwe (2016), a co-founder of Campaign Zero, published a non-peer reviewed analysis of the eight recommendations which would become #8cantwait. Using data gathered in part through Freedom of Information Act requests, he assesses the relationship between the eight policy characteristics and suspect deaths, assaults on officers, officer deaths, and officer injuries. His findings from 91 large municipal police departments indicate that agencies which comply with more of Campaign Zero's eight policy standards have lower annual rates of suspect and officer deaths.

There are, however, several limitations to this study. For one, Sinyangwe (2016) only reports descriptive statistics for some variables (i.e., policy characteristics, suspect deaths), not all of them (i.e., officer injuries and deaths, number of arrests, officers, and assaults on officers, % minority residents, Gini coefficient, and median income). Furthermore, while a multivariate analysis (i.e., negative binomial regression) was conducted on the "suspects killed" outcome (Sinyangwe, 2016, p. 12), the "assaults on officers," "officers injured" and "officers killed" outcomes are only assessed through

bivariate analyses reported in graphs (p. 11). It is unclear why these outcomes are not analyzed with the same set of relevant controls included in the "suspects killed" regression model. Furthermore, no measure of total use-of-force incidents is assessed even though the eight policy characteristics are marketed to "end police violence," which includes less-lethal forms of force (Campaign Zero, n.d.; Sinyangwe, 2016).

While Sinyangwe's (2016) findings appear encouraging, the lack of methodological transparency, exclusion of control variables from the analysis of several important outcomes, and omission of a measure of use-of-force incidents represent substantial gaps in our understanding of how the #8cantwait recommendations affect use-of-force outcomes. There have been no published follow-up studies to Sinyangwe's 2016 article, and it is still marketed by Campaign Zero as a research basis for #8cantwait (Campaign Zero, n.d.).

Gaps in the Evidence Base

The preceding Empirical Findings subsection presents decades of evidence on the impacts of written use-of-force policies. These studies have produced a relatively harmonious body of findings, indicating that implementing more restrictive written policies can be an effective way to limit police discretion and improve use-of-force related outcomes. This may suggest that future research in this area is unnecessary.

Crucially, however, a major limitation underscores most published research on use-of-force policy, the lack of agency-level comparisons. While longitudinal studies within a single agency provide value by establishing time-order between the intended cause (i.e., policy reform) and the desired effect (i.e., better use-of-force outcomes), they

cannot control for conditions unique to that agency setting. This limitation can be overcome by analyzing a sample of comparable police agencies.

The lack of agency-level, comparative research is understandable, given historical data limitations, particularly a lack of publicly accessible policy and use-of-force incident repositories, conflicting definitions of force, and widely divergent reporting requirements. Some publicly accessible databases on the use of force have emerged, but they are commonly hampered by overly restrictive definitions of reportable force, limited participation, and an unwillingness to publish data publicly at the agency-level (Bonta, 2021; U.S. Federal Bureau of Investigation, n.d.; U.S. Government Accountability Office, 2021).

Current Study

In a post-Ferguson, post-George Floyd world of increased public attention towards the use of force and growing transparency from police agencies and local governments, it is now possible to analyze a sample of comparable police agencies to address the lack of agency-level comparative use-of-force studies.

Many local governments and police agencies now post use-of-force policies and outcome data online in annual reports and transparency portals (i.e., publicly accessible data hubs). Use-of-force reporting standards have become more transparent and compatible. The current dissertation uses publicly available data to address the lack of agency-level comparative studies on the relationship between use-of-force policy characteristics and outcomes. The purpose of this dissertation is to inform our understanding of the relationship between policies intended to restrict the discretionary

behavior of officers and undesirable use-of-force outcomes, particularly the incident rate, suspect injuries and deaths, and officer injuries.

Use-of-force policy research is important in part because it is actionable. Unlike calls to defund, disarm, or abolish the police, revising police policies and associated training is relatively simple and uncontroversial. Other strategies for reducing the frequency and severity of police uses of force, such as alternative responder models, are less controversial but are more expensive and logistically challenging than policy reform. If more restrictive policy changes, like those suggested by #8cantwait, produce significant improvements to use-of-force outcomes, this information would be immensely valuable to policymakers. Conversely, if policy-based restrictions on discretionary force behavior do not produce desired changes, policymakers could use this information to divert their efforts elsewhere.

The current dissertation uses descriptive, bivariate, and multivariate analyses to assess the relationship between #8cantwait policy characteristics and use-of-force outcomes while controlling for relevant agency- and city-level characteristics. Two research hypotheses are tested, based on the idea informed by prior research that more restrictive policies should produce better use of force outcomes. This dissertation intends to serve as an intermediary step towards a more complete and comprehensive study of the relationship between use-of-force policy characteristics and outcomes that will not be possible until agency-level use-of-force data proliferate.

It is important to note that, while this dissertation intends to make substantial contributions to use-of-force policy research, its design does not permit testing causal claims. Rather, the current dissertation's research design is correlational, able to indicate

whether agencies with more restrictive use-of-force policies have better force-related outcomes, not to test whether adopting certain policy characteristics will directly cause those improvements. This and other limitations of the current dissertation are reviewed in the Discussion chapter.

CHAPTER III

Methodology

Consistent with prior research that suggests more comprehensive, restrictive use-of-force policies improve agency-level behavioral outputs related to the use of force, this dissertation tests two distinct hypotheses. At the municipal police agency unit of analysis, while controlling for agency characteristics and social contextual factors:

H_1: Agencies that comply with more #8cantwait use-of-force policy recommendations will use force at a lower rate.

H_2: Agencies that comply with more #8cantwait use-of-force policy recommendations will have a lower rate of force-related officer injury, suspect injury, and suspect death.

Data

To test the two hypotheses, this dissertation analyzes data from several publicly accessible sources.

Use-of-force policy and outcome characteristics are collected manually from city and police agency websites at the agency-year level. For each agency within the sampling frame, Google searches are conducted using the following phrases: [police agency name] + use of force data, response to resistance data, policy manual, general orders, internal affairs, professional standards, and annual report. Each of these Google searches are supplemented by internal searches within each city and agency website until necessary data are collected or all terms are exhausted. Data are collected for the most recent calendar year possible, and a control variable (discussed in the Measures subsection) is

included to enable comparisons across years. Data collection occurred between November 2023 and February 2024.

For agencies that have recently replaced their use-of-force policy, obsolete policies are obtained from cached webpages stored by the Internet Archive's Wayback Machine (web.archive.org). For example, if an agency reports use-of-force outcome data for 2020 but updated its use-of-force policy in 2022, the Wayback Machine is searched for the policy that was in effect during 2020. If the Wayback Machine captured a use-of-force policy which can be confirmed to have been in effect throughout 2020[5], this policy is downloaded and assessed as a predictor of the agency's 2020 use-of-force outcome data.

Police agency characteristics are taken from the 2018 Census of State and Local Law Enforcement Agencies (CSLLEA; Gardner & Scott, 2022). This survey is administered every four years by the U.S. Bureau of Justice Statistics (BJS) as part of its Law Enforcement Core Statistics (LECS) program. Its frame is drawn from the Law Enforcement Agency Roster (LEAR) database, and the 2018 response rate was 92.5% (Gardner & Scott, 2022, p. 19). It is estimated that there are 17,541 state and local police agencies which employ at least one full-time sworn officer (Gardner & Scott, 2022, p. 4).

Finally, city-level social contextual factors are drawn from 2022 American Community Survey 5-year estimates (Place-level tables B19058, DP02, DP03, DP05, S1701) and 2016-2022 FBI Uniform Crime Reports (Kaplan, 2023a, 2023b).

[5] For confirmation, an identical version of the policy must have been captured by the Wayback Machine prior to the beginning of the year (for this example, at any point before 00:00:00 GMT on 01/01/2020) and after the end of the year (for this example, at any point after 23:59:59 GMT on 12/31/2020). Alternatively, confirmation can be made if the policy was only captured after the end of the year, but the policy includes a "last revised" date which indicates it was in effect throughout the entire calendar year (for this example, e.g., "Last revised: 03/11/2019" and still in effect in 2021).

Sample

The sampling frame includes all 619 municipal police departments in the United States which employ at least 100 full-time sworn officers according to the 2018 CSLLEA. This frame excludes 579 non-municipal agencies with at least 100 full-time sworn officers and 16,273 smaller police agencies of all types. Non-municipal agencies include sheriff's offices, regional/multijurisdictional police, state police, tribal police, constabularies, marshals, and police with special jurisdiction (e.g., college campus, fish and wildlife, transportation, investigation).

The "at least 100 full-time sworn officers" inclusion criterion reflects the U.S. Bureau of Justice Statistics' "self-representing" standard for sampling personnel and policy information (Goodison, 2022, p. 15) and contemporary published research on police policy (Lawshe et al., 2022). Non-municipal agencies are excluded due to substantial spatial misalignment between these agencies' jurisdictions and Census boundaries[6]. Municipal police jurisdictional boundaries are theoretically identical to Census city boundaries, and in practice differ minimally.

The sampling frame's 619 municipal agencies are estimated to employ 257, 243 full-time sworn officers in 2018, which represents 55.2% of all full-time sworn officers in municipal agencies, and 32.7% of all full-time sworn officers in the United States (Gardner & Scott, 2022, p. 5).

[6] A few (<5) county police departments in the frame provide exclusive police services to their respective county since there are no incorporated municipalities and therefore no city police (e.g., Howard County Police, MD). While these agencies were excluded for consistency, there would have theoretically been no spatial misalignment between these county agency jurisdictions and corresponding county Census data.

To be retained in the final analytic samples, city agencies must have their use of force policy and outcome data publicly available and accessible online. These policies and outcomes must be temporally matched to a specific year (e.g., policy was in effect throughout all of 2022 and outcome data contain all reportable force incidents in 2022). All agencies with temporally misaligned policies and outcome data are excluded.

Furthermore, the use of force policy must clearly indicate reporting criteria, so equivalent comparisons can be made between agencies. Two predominant reporting standards are observed in the sampling frame and are retained as valid observations. A dichotomous control variable (described in the Measures subsection) enables comparison of data produced between these two standards. One standard requires all applications of force, as defined in this dissertation's Introduction and Measures subsection, to be reported. Another requires all applications of force using weapons to be reported, while only physical force which produces an alleged or observed injury or death is reportable. All other reporting standards are regarded as incompatible and are excluded from the sample (e.g., the California state standard, see Bonta, 2021, p. 4).

Officer presence, verbal commands, handcuffing, and shows of force are not considered to be uses of force in the current dissertation, in keeping with IACP definition of force (2001, pp. 66-67). No agencies in the sample included officer presence or verbal commands as reportable uses of force. The current dissertation excludes agencies which require handcuffing and shows of force to be reported, unless those incidents can be disaggregated and excluded from the agency's count of total use-of-force incidents. Examples of the two valid reporting standards are included at the end of Appendix B.

For agencies that have multiple valid years of data, only the most recent year of data is used. After compiling use of force policies and outcome data using the search strategy described in the Data section and merging these observations with city social-contextual factors, the primary analytic sample contains 114 agencies. The analytic subsample, which only retains agencies from the primary sample which also reported suspect injuries, suspect deaths, and officer injuries, contains 42 agencies. A test of the representativeness of the primary sample is conducted and reported in the Results section (Table 3).

Measures

Dependent Variables

To test the first research hypothesis, the rate of annual use-of-force incidents per 1,000 arrests is assessed. Values are rounded to the nearest integer to permit negative binomial regression.

The numerator, use-of-force incidents, is operationalized to align with the IACP definition of force (2001, pp. 66-67). A use-of-force incident occurs when at least one police officer applies physical force, chemical force, electronic force, impact force, or deadly force to at least one suspect. Most agencies in the primary analytic sample report all incidents using these force techniques. Some, however, only report physical force when it results in an injury, deflating use-of-force incident counts compared to agencies which report all physical force incidents. To control for these divergent reporting criteria, a dichotomous variable is included in all multivariate analyses (see Controls subsection). This numerator is calculated at the incident-level. Any encounter involving police force

adds a value of 1 to that agency's use-of-force rate numerator, regardless of how many suspects and officers are involved or how many force techniques are applied.

Other forms of police coercion are not operationalized as force in the current dissertation, including officer presence, verbal commands, handcuffing (with or without resistance), and shows of force (e.g., displays/pointing of a firearm or other weapon; IACP, 2001, p. 67). These types of force are excluded due to a lack of data, as these coercive actions are not consistently regarded as uses of force.

Arrests are chosen as the denominator since these encounters most accurately reflect a population of incidents at risk of escalating to a use-of-force incident. This denominator is multiplied by 1,000 (i.e., "use-of-force incidents per 1,000 arrests") to avoid rate values less than 1, since uses of force are relatively rare.

Alternative denominators were considered but are ultimately rejected in favor of arrests. Calls for service (CFS) were considered, since any police-citizen encounter presents some risk of force being used. CFS reporting criteria, however, are inconsistent between jurisdictions, as some agencies do not include officer-initiated activity in counts of dispatched CFS. Arrest data do not share this issue. Census population was also considered as a denominator, since anyone living within a police jurisdiction could be stopped and subjected to force by their municipality's police agency. People who have no contact with police, however, are not at risk of experiencing police use-of-force, so this is not an ideal denominator for a rate of use-of-force incidents. Anyone subject to arrest will experience some form of police coercion (e.g., verbal commands, handcuffing) and is at some risk of having force applied to them. Arrest is not a perfect denominator, as some

people experience police force without being arrested, but it is preferrable to the available alternatives[7].

To test the second research hypothesis, the rates of annual suspect injuries, suspect deaths, and officer injuries per 1,000 arrests are assessed. The numerators for these rates include people injured and killed during, or as a result of, use-of-force incidents. Suspect injuries include officer-observed injuries and suspect claims of being injured, regardless of whether the suspect's claims were verified by police or medical personnel. Arrests are chosen as the denominator for these three rate calculations for the same reasons as discussed for the rate of use-of-force incidents.

The suspect injury, suspect death, and officer injury numerators are calculated at the individual person-level. For example, if a use-of-force incident resulted in one suspect sustaining three injuries, a value of 1 is added to that agency's suspect injury numerator. If an incident resulted in three suspects each sustaining an injury, a fourth suspect being killed, and an officer being injured, then a value of 4 is added to that agency's suspect injury numerator, 1 is added to the suspect death numerator, and 1 is added to the officer injury numerator. Officer deaths are not explored in the current dissertation as most (>95%) of agencies in the primary analytic sample reported no officer deaths as a result of use-of-force incidents.

#8cantwait Policy Characteristics

Campaign Zero posits that each of the eight policy characteristics should exert a negative effect on uses of force and injury or death outcomes (Campaign Zero, n.d.; Sinyangwe, 2016). The operationalization of each characteristic is now described. Where

[7] For further discussion of the issue of choosing an appropriate denominator for a use-of-force rate calculation, see Nix, 2020, pp. 5-6.

possible, the eight characteristics are coded to align as closely as possible with the #8cantwait recommendations as written. For recommendations #4 and #5 as numbered below, however, none of the agencies in the analytic sample adhere completely to #8cantwait standards, so the next most restrictive policy design for which there is sufficient variation in the sample is used instead. Coding criteria for the eight policy characteristics are as follows. For specific examples of policies coded 0 and 1, see Appendix B.

1: *Require de-escalation* is coded 1 if the policy requires officers to use de-escalation strategies to reduce the likelihood that force will be necessary.

2: *Require use of force continuum* is coded 1 if the policy explicitly categorizes all force options and matches them to levels of suspect behavior or other circumstances. This includes all observed continuum designs (e.g., linear, hub-and-spoke, matrix, wheel), in graphical or text form.

3: *Ban chokeholds and strangleholds* is coded 1 if the policy prohibits the use of all neck restraints in all cases.

4: *Require warning before deadly force* is coded 1 if the policy requires officers to, when feasible, issue a verbal warning prior to the use of deadly force. While the #8cantwait standard requires a warning to be issued in all deadly force encounters, none of the policies reviewed in the current sample use this brightline standard, therefore the less restrictive *Graham v. Connor* (1989) standard is used instead.

5: *Ban shooting at moving vehicles* is coded 1 if the policy prohibits officers from shooting at moving vehicles except in cases when the suspect uses deadly force other than the vehicle, or the vehicle is being used to attempt a mass-casualty ramming attack.

While the #8cantwait standard requires a categorical ban of all shots fired at moving vehicles, none of the policies reviewed in the current sample adhere to this standard, therefore the less restrictive approach is used instead.

6: *Requires exhaust all alternatives before deadly force* is coded 1 if the policy prohibits officers from using deadly force except as a last resort when less lethal and non-force options are infeasible or ineffective.

7: *Duty to intervene* is coded 1 if the policy requires officers who observe what they reasonably believe to be excessive force to intervene, if feasible, and report the incident to a supervisor as soon as possible. Some agencies (<5%) in the sample comply halfway, requiring officers to intervene but not to report, or report, but not intervene. These cases are coded 0 for failing to comply fully with the #8cantwait standard.

8: *Require comprehensive reporting* is coded 1 if the policy conforms to the second part of the #8cantwait standard as written, requiring officers to report shows of force, particularly the pointing of a firearm at a person to gain compliance. The first component of the #8cantwait standard is ignored because, by their inclusion in this sample, all observed agencies require documenting force in writing, reporting it to a supervisor, entering it into a database, and making that database accessible beyond internal agency use. The "report shows of force" component of this requirement, however, varies within the sample, so this is used to operationalize the #8cantwait standard.

Controls

To control for possible social-contextual influences on police use-of-force decision-making, several additional variables are included and analyzed. These include the percentage of full-time sworn officers that are female, percentage of residents who are not non-Hispanic White, UCR Part I violent crime rate per 100,000 people (i.e., offenses known to law enforcement), and Census region. Due to profound, short-term changes during the COVID-19 pandemic (e.g., lockdowns), a categorical time period variable is included to compare data between pre-pandemic years (2017-2019), pandemic years (2020-2021), and post-pandemic years (2022-2023).

A concentrated disadvantage factor is also calculated, including percentages of female-headed households, households receiving welfare, unemployed people in the labor force, and people below the poverty line. These variable choices reflect prior work (Sampson et al., 1997, 2008) and are supported by the results of a principal components analysis. For the primary analytic sample, following the calculation of a strong Cronbach's alpha ($\alpha = 0.86$), a principal components analysis indicates that a single factor explains 77.21% of variance. Factor loadings for the four variables range from 0.83 to 0.92 (mean = 0.88). Results are nearly identical for the analytic subsample ($\alpha = 0.85$; 77.13% of variance; mean factor loading = 0.88).

Finally, to compare data collected under reporting policies which differ in whether all physical force is reported, a dichotomous report all variable is used. A value of 1 indicates all applications of physical force are included in the total use of force incident count. A value of 0 indicates that physical force applications which do not cause or are not alleged by the suspect to have caused an injury are excluded from the total use

of force incident count. This control variable is necessary, as agencies which only report physical force when it results in an injury or complaint of injury will report fewer uses of force. Examples of each standard are included at the end of Appendix B.

Analytical Methods

After calculating and reporting descriptive statistics, bivariate comparisons are calculated for the primary analytic sample and analytic subsample to test the two research hypotheses (i.e., Pearson's correlation, independent-samples t-test, one-way ANOVA). Given an adequate, albeit suboptimal number of agencies in the primary analytic sample (n = 114), negative binomial regression models with log link functions are fitted to test the first research hypothesis using a multivariate statistical method. Due in part to an inadequate number of agencies in the analytic subsample (n = 42), no fitted model outperforms an intercept-only model, therefore multivariate regression outputs for the subsample are not included in the current dissertation[8].

[8] These and other attempted methods that are mentioned in-text, but not presented in the interest of preserving space and avoiding redundancy, are available upon request.

CHAPTER IV

Results

Primary Sample

Sinyangwe (2016) suggests that a single additive index of #8cantwait characteristics, ranging from 0 (none) to 8 (all), should be significantly and negatively associated with use-of-force outcomes such as suspect deaths resulting from use-of-force incidents (p. 2). The current dissertation first tests this assumption by assessing the dimensionality of #8cantwait policy characteristics.

First, a Cronbach's alpha[9] value of 0.61 is calculated, indicating less-than-adequate reliability for a single additive index of #8cantwait components (Acock, 2013). Next, a matrix of tetrachoric correlations between the #8cantwait components is calculated and presented in Table 1.

Table 1

Tetrachoric Correlation Matrix (Rho) for Primary Sample of Municipal Police Agencies, n = 114

	1.	2.	3.	4.	5.	6.	7.
1. Require de-escalation	1						
2. Require UoF continuum	0.24	1					
3. Ban chokeholds and strangleholds	0.26	0.09	1				
4. Require warning before deadly force	0.41*	0.20	0.43	1			
5. Ban shooting at moving vehicles	0.45*	0.23	0.35†	–0.09	1		

(continued)

[9] Cronbach's alpha α is calculated using the following function, where k represents the number of items (8, in this case), $\bar{v}$ represents average variance, and $\bar{c}$ represents average covariance: $\alpha = \frac{k\,\bar{c}}{\bar{v}+(k-1)\bar{c}}$

	1.	2.	3.	4.	5.	6.	7.
6. Requires exhaust all alternatives	0.26	0.45**	0.15	0.30	0.19	1	
7. Duty to intervene	0.68***	0.17	0.26	0.30	0.11	0.11	1
8. Require comprehensive reporting	0.41**	0.38*	0.27	0.38	0.29	0.55***	0.29†

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$, two-tailed significances

Of the 28 correlations, 9 (32.1%) attain statistical significance at the $p < 0.10$ level. This provides some indication of an underlying #8cantwait concept in these data. A principal factors analysis is then conducted. A single factor with an eigenvalue of greater than 1 is produced and retained, explaining 67.01% variance. Factor loadings for the eight characteristics range from 0.44 to 0.78 (mean = 0.56). Although these results provide less than ideal support for the presence of a single, underlying #8cantwait concept in the primary sample, loadings are deemed sufficient for the current dissertation's exploratory analyses.

Table 2 presents descriptive statistics for the primary analytic sample. The integer rate of use-of-force incidents per 1,000 arrests is positively skewed and over-dispersed, suggesting that negative binomial regression is the appropriate choice for multivariate analysis.

Table 2

Descriptive Statistics of Primary Sample of Municipal Police Agencies, n = 114

		Mean (S.D.) or # (%)	Min	Max
Use-of-force incidents per 1,000 arrests (DV)		57.62 (42.46)	11.00	249.00
#8cantwait factor		0.75 (0.35)	0.00	1.41
1. Require de-escalation		79 (69.3%)		
2. Require use of force continuum		37 (32.5%)		
		Mean (S.D.) or # (%)	Min	Max
3. Ban chokeholds and strangleholds		30 (26.3%)		
4. Require warning before deadly force		100 (87.7%)		
5. Ban shooting at moving vehicles		20 (17.5%)		
6. Requires exhaust all alternatives		34 (29.8%)		
7. Duty to intervene		79 (69.3%)		
8. Require comprehensive reporting		61 (53.5%)		
Percent female officers		12.64 (5.12)	3.60	30.23
Percent non-White		50.95 (18.84)	12.90	90.90
Violent crimes per 100,000		617.61 (406.59)	33.38	2148.32
Concentrated disadvantage factor		0.00 (1.00)	–2.09	3.79
Census region	*Midwest* †	24 (21.1%)		
	Northeast	17 (14.9%)		
	South	34 (29.8%)		
	West	39 (34.2%)		
Time period	*Pre-pandemic*	14 (12.3%)		
	Pandemic	43 (37.7%)		
	Post-pandemic	57 (50.0%)		
Report all uses of force		87 (76.3%)		

† = reference category in later multivariate analyses

Agency conformity to the #8cantwait characteristics as operationalized in the current dissertation vary widely. For example, relatively few agencies ban neck restraints (26.3%) and shooting at moving vehicles in most cases (17.5%), while most agencies (87.7%) conform with the *Graham* standard requiring a verbal warning to be issued, when feasible, prior to the use of deadly force.

The remaining descriptive statistics illustrate a diverse sample of policing contexts, as indicated by wide ranges in the composition of female officers, proportion of non-White residents, violent crime rate, and concentrated disadvantage. The primary analytic sample contains agencies from all four Census regions, as 36 states and the District of Columbia are represented. Half of the observations were collected since pandemic lockdowns lifted (i.e., 2022-2023), although many (37.7%) were collected during the height of the pandemic (i.e., 2020-2021) and some (12.3%) were collected prior to 2020. Most agencies (76.3%) reported all physical force, while the other 23.7% of agencies only reported physical force when an officer observed a suspect injury or a suspect claimed to have been injured.

Table 3 presents a comparison of sample characteristics to sampling frame characteristics. This comparison is made to indicate the extent to which the primary sample (n = 114) is representative of the overall sampling frame of municipal police agencies that employ at least 100 full-time sworn officers (N = 619). For continuous variables, one-sample t-test results are reported. A chi-square (χ^2) test is reported for the categorical Census region variable.

Table 3

Comparison of Characteristics Between Primary Sample, n = 114, and Total Sampling Frame, N = 619

		Sample Mean (S.D.) or # (%)	Sampling frame Mean (S.D.) or # (%)	t or χ^2 (df)
Percent female officers		12.64 (5.12)	11.57 (4.83)	2.24 (113)*
Percent non-White		50.95 (18.84)	50.78 (21.04)	0.10 (113)
Violent crimes per 100,000		617.61 (406.59)	487.21 (369.56)	3.42 (113)***
Concentrated disadvantage factor		0.07 (0.93)	0.00 (1.00)	0.86 (113)
Census region	*Midwest*	24 (21.1%)	110 (17.8%)	6.51 (3)†
	Northeast	17 (14.9%)	109 (17.6%)	
		Sample Mean (S.D.) or # (%)	Sampling frame Mean (S.D.) or # (%)	t or χ^2 (df)
	South	34 (29.8%)	228 (36.8%)	
	West	39 (34.2%)	153 (24.7%)	

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$, two-tailed significances

These statistics indicate a representative sample based on percent non-White residents ($t = 0.10$, $p > 0.10$) and concentrated disadvantage ($t = 0.86$, $p > 0.10$). The sampled agencies, however, have a greater violent crime rate ($t = 3.42$, $p < 0.001$) and proportion of female officers ($t = 2.24$, $p < 0.05$) than agencies in the sampling frame. Table 3 also indicates a slightly unrepresentative geographic distribution ($\chi^2 = 6.51$, $p < 0.10$), as the sample underrepresents Southern agencies (29.8% vs 36.8%) and overrepresents Western agencies (34.2% vs 24.7%).

Bivariate Analyses

During univariate analyses of the primary sample, it was observed that 28 (24.6%) of agencies' use-of-force policies were copyrighted by Lexipol, a for-profit private company that contracts with over 3,500 police agencies to write policies (Eagly & Schwartz, 2022).

To explore potential impacts of agency collaboration with Lexipol, tests of association were conducted, examining how demographic, agency, policy, and use-of-force outcome data differ between agencies that collaborate with Lexipol and those that do not. Independent sample t-tests are reported for continuous variables, phi (Φ) for dichotomous variables, and chi-square (χ^2) for multi-categorical variables.

Table 4

Comparison of Sample Characteristics by Association with Lexipol, n = 114

	Non-Lexipol (n = 86) Mean (S.D.) or # (%)	Lexipol (n = 28) Mean (S.D.) or # (%)	t or χ^2 (df) or Φ
Use-of-force incidents per 1,000 arrests	58.64 (44.51)	54.50 (35.98)	–0.45 (112)
#8cantwait factor	0.75 (0.38)	0.76 (0.27)	0.25 (64.66)
1. Require de-escalation	59 (68.6%)	20 (71.4%)	0.03
2. Require use of force continuum	35 (40.7%)	2 (7.1%)	–0.31***
3. Ban chokeholds and strangleholds	19 (22.1%)	11 (39.3%)	0.17†
4. Require warning before deadly force	74 (86.0%)	26 (92.9%)	0.09
5. Ban shooting at moving vehicles	17 (19.8%)	3 (10.7%)	–0.10
6. Requires exhaust all alternatives	30 (34.9%)	4 (14.3%)	–0.19*
7. Duty to intervene	51 (59.3%)	28 (100.0%)	0.38***
8. Require comprehensive reporting	47 (54.7%)	14 (50.0%)	–0.04
Percent female officers	13.32 (5.46)	10.57 (3.18)	–3.27 (80.23)**

(continued)

		Non-Lexipol (n = 86) Mean (S.D.) or # (%)	Lexipol (n = 28) Mean (S.D.) or # (%)	t or χ^2 (df) or Φ
Percent non-White		51.26 (18.60)	50.00 (19.89)	–0.31 (112)
Violent crimes per 100,000		648.05 (436.82)	524.10 (281.33)	–1.75 (71.94)†
Concentrated disadvantage factor		0.04 (1.00)	–0.12 (1.00)	–0.74 (112)
Census region	*Midwest*	19 (22.1%)	5 (17.9%)	9.33 (3)*
	Northeast	14 (16.3%)	3 (10.7%)	
	South	30 (34.9%)	4 (14.3%)	
	West	23 (26.7%)	16 (57.1%)	
Time period	*Pre-pandemic*	12 (14.0%)	2 (7.1%)	1.22 (2)
	Pandemic	33 (38.4%)	10 (35.7%)	
	Post-pandemic	41 (47.7%)	16 (57.1%)	
Report all uses of force		62 (72.1%)	25 (89.3%)	0.17†

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$, two-tailed significances

The results indicate significant differences between agencies which contracted with Lexipol to write their use-of-force policy and those that did not. While Lexipol policies do not significantly differ from non-Lexipol policies in their overall conformity to #8cantwait characteristics (i.e., #8cantwait factor; $t = 0.25$, $p > 0.10$), proportions of individual policy components vary substantially. Substantially fewer Lexipol policies contain use-of-force continuums ($\Phi = –0.31$, $p < 0.001$) and requirements to exhaust all alternatives prior to using deadly force ($\Phi = –0.19$, $p < 0.05$). Notably, all 28 Lexipol policies require officers to intervene and report excessive force ($\Phi = 0.38$, $p < 0.001$). A slightly greater proportion of Lexipol-contracted policies require officers to report all physical force, not just physical force which causes an observed injury or complaint of injury ($\Phi = 0.17$, $p < 0.10$).

Agencies which contract with Lexipol employ smaller proportions of female, full-time sworn officers ($t = –3.27$, $p < 0.01$) and record fewer violent offenses per 100,000 people ($t = –1.75$, $p < 0.10$). Geographically, agencies with Lexipol use-of-force policies are far more likely to be in the Census West geographic region than non-Lexipol agencies ($\chi^2 = 9.33$, $p < 0.05$). While Lexipol is currently headquartered in Texas, it was founded in California (Lexipol, n.d.). Notably, agencies which contract with Lexipol did not report significantly different rates of force compared to non-Lexipol agencies ($t = –0.45$, $p > 0.10$).

Table 5 presents a matrix of Pearson's correlations between continuous variables in the primary sample. Substantively significant correlations between city-level, social-contextual variables suggest that the sample provides sufficient statistical power to observe strong effects, such as the correlation between concentrated disadvantage and violent crime ($r = 0.65$, $p < 0.001$).

Table 5

Pearson's Correlation Matrix for Primary Sample of Municipal Police Agencies, n = 114

	Use-of-force incidents per 1,000 arrests (DV)	#8cantwait factor	Percent female officers	Percent non-White	Violent crimes per 100,000
#8cantwait factor	0.12	1			
Percent female officers	0.15	0.21*	1		
Percent non-White	0.20*	0.04	0.14	1	
Violent crimes per 100,000	0.10	0.08	0.29**	0.36***	1
Concentrated disadvantage factor	0.16†	0.12	0.24*	0.33***	0.65***

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$, two-tailed significances

This correlation matrix provides no support for the first research hypothesis, as the relationship between more restrictive use-of-force policy characteristics, as operationalized by the #8cantwait factor, and the frequency of use-of-force incidents per 1,000 arrests, is weak to the point of statistical insignificance ($r = 0.12$, $p > 0.10$).

Only two variables, percent non-White ($r = 0.20$, $p < 0.05$) and concentrated disadvantage ($r = 0.16$, $p < 0.10$), are significantly correlated with the use-of-force outcome variable, and these correlations are quite weak. The percent of female officers is the only continuous variable that is significantly correlated with the #8cantwait factor ($r = 0.21$, $p < 0.05$).

Table 6 continues the bivariate analysis on the primary analytic sample, presenting results from independent samples t-tests (for dichotomous variables) and one-way ANOVA (for multi-categorical variables). These tests report the strength of association between categorical independent variables and use-of-force incidents per 1,000 arrests. Instead of the sub-optimally fitting #8cantwait factor, individual #8cantwait policy recommendations are examined in this table, along with associations between categorical controls and the use-of-force rate.

Table 6

Comparisons of Mean Use-of-Force Incident Rates per 1,000 Arrests for Primary Sample of Municipal Police Agencies, n = 114

		No Mean (S.D.)	Yes Mean (S.D.)	t or F (df)
1. Require de-escalation		55.29 (32.99)	58.66 (46.19)	0.39 (112)
2. Require use of force continuum		51.95 (38.54)	69.43 (48.08)	2.09 (112)*
3. Ban chokeholds and strangleholds		56.31 (44.88)	61.30 (35.23)	0.55 (112)
4. Require warning before deadly force		55.14 (40.67)	57.97 (42.89)	0.23 (112)
5. Ban shooting at moving vehicles		58.07 (43.61)	55.50 (37.50)	–0.25 (112)
6. Requires exhaust all alternatives		54.26 (40.07)	65.53 (47.32)	1.30 (112)
7. Duty to intervene		62.69 (45.07)	55.38 (41.35)	–0.85 (112)
8. Require comprehensive reporting		48.76 (32.77)	65.33 (48.32)	2.11 (112)*
Census region	*Midwest*		60.00 (35.32)	4.46 (3)**
	Northeast		89.29 (64.94)	
	South		48.56 (37.88)	
	West		50.26 (31.67)	
Time period	*Pre-pandemic*		42.07 (23.37)	1.77 (2)
	Pandemic		65.47 (52.24)	
	Post-pandemic		55.53 (36.77)	
Report all uses of force		32.52 (24.65)	65.41 (43.89)	4.92 (79.14)***

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$, two-tailed significances

Similar to the previous correlation matrix (Table 5), the results presented in Table 6 provide no support for the first research hypothesis that more restrictive use of force policies are associated with fewer uses of force. Only two policy characteristics derived from #8cantwait have a significant association with the rate of use-of-force incidents,

however both relationships are positive (Table 6). This indicates that agencies which include a use-of-force continuum in their written policy ($t = 2.09$, $p < 0.05$) and deem the pointing of a firearm as a reportable use of force ($t = 2.11$, $p < 0.05$) report more uses of force on average than agencies which do not have these policy characteristics. The other six characteristics are insignificantly associated with the rate of use-of-force incidents.

Significant differences in mean use-of-force incidents are observed between Census regions ($F = 4.46$, $p < 0.01$) and reporting criteria ($t = 4.92$, $p < 0.001$). Despite variations in police activity due in part to protests and lockdowns before, during, and after the pandemic, the one-way ANOVA indicates no significant association between time period and use-of-force incidents. Other temporal operationalizations were explored, and no alternative categorization produced a significant F-statistic. Due to consistent insignificance, the time period variable is dropped from subsequent analyses.

Multivariate Analyses

While the bivariate analyses suggest that #8cantwait characteristics are not significantly associated with a reduction in use-of-force incidents, an adequate sample size and the presence of several theoretically and empirically relevant control variables permit testing the first research hypothesis using a multivariate technique. Negative binomial regression with log link function is used, given the positive skew and over-dispersion of the dependent variable in the primary analytic sample.

Table 7 presents standardized coefficients (i.e., Exp(B) or Incidence rate ratio) and 95% confidence intervals for each independent variable. Two models are fitted, one with only the #8cantwait factor and reporting criteria control, and a final model adding all other controls. Multicollinearity was assessed and determined not to be an issue in the

final model, as indicated by variance inflation factor (VIF) and tolerance values near 1 and a condition index of 11.

Table 7

Negative Binomial Regression Models of Municipal Police Agency Use-of-Force Incident Rates per 1,000 Arrests, n = 114

	Model 1	Model 2
	Exp(B) [95% CI]	Exp(B) [95% CI]
#8cantwait factor	1.09 [0.65 – 1.84]	0.96 [0.55 – 1.68]
Percent female officers		1.01 [0.96 – 1.05]
Percent non-White		1.01 [0.99 – 1.02]
Violent crimes per 100,000		1.01 [0.96 – 1.05]
Concentrated disadvantage		0.88 [0.65 – 1.20]
Census region [a]		
Northeast		1.74 [0.82 – 3.67]
South		0.90 [0.51 – 1.60]
West		0.90 [0.48 – 1.69]
Report all uses of force	1.98 [1.26 – 3.10]**	1.85 [1.15 – 2.97]*
Intercept	30.77 [18.74 – 50.54]***	18.04 [7.04 – 46.23]***
Log likelihood [b]	–572.75*	–569.50†

† = p < 0.10; * = p < 0.05; ** = p < 0.01; *** = p < 0.001, two-tailed significances.
[a] Reference category is Midwest; [b] Significance is reported for a Wald χ^2 test comparing model fitness between the fitted model and the intercept-only model.

The reporting criteria variable is significant across both models, as agencies which designate more types of force as reportable consequently report more uses of force at a level that is confidently detectable in the current sample. Insignificant standardized coefficients for the #8cantwait factor suggests that the presence of #8cantwait policy characteristics is not associated with substantial changes in the rate of use-of-force

incidents. This reinforces the null findings from the Pearson's correlation matrix (Table 5) and supports rejecting the first research hypothesis. Despite varying degrees of bivariate significance, none of the social-contextual control variables are significant in the final multivariate model. Model fitness is barely adequate, as indicated by log likelihood values and corresponding χ^2 tests (Table 7). Other combinations of control variables, including various operationalizations of the time period or year variable, were attempted but did not produce better fitting models.

The insignificant relationship between restrictive policy characteristics and rate of use of force incidents could be attributable, in part, to the mediocre factor loadings discussed previously. To explore this possibility, additional negative binomial models were fitted using individual policy components instead of the suboptimal factor score. Table 8 reports the results of three such models which include the only two #8cantwait characteristics that present a significant bivariate association with use-of-force incidents (Table 6).

Table 8

Respecified Negative Binomial Regression Models of Municipal Police Agency Use-of-Force Incident Rates per 1,000 Arrests, n = 114

	Model 1	Model 2	Model 3
	Exp(B) [95% CI]	Exp(B) [95% CI]	Exp(B) [95% CI]
2. Require use of force continuum	1.23 [0.82 – 1.83]		1.17 [0.76 – 1.80]
8. Require comprehensive reporting		1.30 [0.90 – 1.89]	1.16 [0.76 – 1.76]
Percent female officers			1.00 [0.96 – 1.05]
Percent non-White			1.01 [1.00 – 1.02]
	Model 1	Model 2	Model 3
	Exp(B) [95% CI]	Exp(B) [95% CI]	Exp(B) [95% CI]
Violent crimes per 100,000			1.00 [1.00 – 1.00]
Concentrated disadvantage			0.90 [0.65 – 1.23]
Census region [a]			
Northeast			1.61 [0.77 – 3.36]
South			0.87 [0.50 – 1.53]
West			0.93 [0.50 – 1.74]
Report all uses of force	1.93 [1.24 – 3.01]**	1.97 [1.27 – 3.06]**	1.81 [1.13 – 2.89]*
Intercept	31.3 [21.2 – 46.2]***	28.4 [18.6 – 43.4]***	16.9 [6.5 – 43.5]***
Log likelihood [b]	–572.30**	–571.85**	–568.85†

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$, two-tailed significances.
[a] Reference category is Midwest; [b] Significance is reported for a Wald χ^2 test comparing the fitted model to an intercept-only model

These three models, like those presented in Table 7, indicate no significant relationship between more restrictive policy characteristics and the rate of use-of-force incidents. As before, only the reporting criteria variable exerts a significant effect, and

model fitness is adequate but weak. Other combinations of specific #8cantwait policies were explored, and none approach significance. These results provide no support for the first research hypothesis.

Analytic Subsample

The second research hypothesis, that more restrictive policy characteristics are associated with fewer force-related officer injuries, citizen injuries, and citizen deaths, is tested by analyzing the subsample of agencies which report those outcome data. Table 9 presents descriptive statistics for the subsample. These statistics indicate that the subsample contains a diverse set of agencies and policing contexts, like the primary sample (Table 2).

Table 9

Descriptive Statistics of Analytic Subsample of Municipal Police Agencies, n = 42

	Mean (S.D.) or # (%)	Min	Max
Officer injuries per 1,000 arrests (DV)	8.17 (5.50)	0.00	23.00
Citizen injuries per 1,000 arrests (DV)	18.17 (12.04)	3.00	57.00
Citizen deaths per 1,000 arrests (DV)	0.18 (0.29)	0.00	1.05
1. Require de-escalation	31 (73.8%)		
2. Require use of force continuum	12 (28.6%)		
3. Ban chokeholds and strangleholds	10 (23.8%)		
4. Require warning before deadly force	36 (85.7%)		
5. Ban shooting at moving vehicles	8 (19.0%)		
6. Requires exhaust all alternatives	12 (28.6%)		
7. Duty to intervene	33 (78.6%)		
8. Require comprehensive reporting	25 (59.5%)		
Percent female officers	12.29 (4.69)	4.11	30.23

(continued)

		Mean (S.D.) or # (%)	Min	Max
Percent non-White		50.81 (18.93)	12.90	85.40
Violent crimes per 100,000		677.98 (489.63)	88.91	2077.91
Concentrated disadvantage factor		0.00 (1.00)	–1.45	2.87
Census region	*Midwest* †	9 (21.4%)		
	Northeast	9 (21.4%)		
	South	12 (28.6%)		
	West	12 (28.6%)		
Time period	*Pre-pandemic*	12 (28.6%)		
	Pandemic	26 (61.9%)		
	Post-pandemic	4 (9.5%)		
Report all uses of force		32 (76.2%)		

† = reference category

Bivariate Analyses

Table 10 presents a matrix of Pearson's correlations between continuous variables in the analytic subsample. As in the primary sample, the presence of substantively significant correlations between city-level, social-contextual variables suggest that the subsample still provides sufficient statistical power to observe strong effects, such as the correlation between concentrated disadvantage and violent crime ($r = 0.63$, $p < 0.001$).

Table 10

Pearson's Correlation Matrix for Analytic Subsample of Municipal Police Agencies, n = 42

	1.	2.	3.	4.	5.	6.
1. Off. inj. per 1,000 arrests (DV)	1					
2. Cit. inj. per 1,000 arrests (DV)	0.57***	1				
3. Cit. death per 1,000 arrests (DV)	0.07	0.25	1			
4. Percent female officers	0.28	0.20	0.18	1		
5. Percent non-White	0.39*	0.36*	–0.38	0.20	1	
6. Violent crimes per 100,000	0.13	0.35*	0.20	0.33*	0.41**	1
7. Concentrated disadvantage factor	0.21	0.33*	0.01	0.19	0.33*	0.63***

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$, two-tailed significances

The correlation matrix indicates that several control variables are correlated with the rate of citizen injuries, specifically percent non-White ($r = 0.36$, $p < 0.05$), violent crime rate ($r = 0.35$, $p < 0.05$), and concentrated disadvantage ($r = 0.33$, $p < 0.05$). Only percent non-White is correlated with the rate of officer injuries ($r = 0.39$, $p < 0.05$).

Table 11 continues the bivariate analysis on the analytic subsample, presenting results from independent samples t-tests (for dichotomous variables) and one-way ANOVA (for multi-categorical variables). These tests report the strength of association between each independent variable and rates of force-related officer injury, citizen injury, and citizen death.

Table 11

Comparisons of Use-of-Force Related Injury and Death Outcome Means for Analytic Subsample of Municipal Police Agencies, n = 42

	Officer injuries per 1,000 arrests	Citizen injuries per 1,000 arrests	Citizen deaths per 1,000 arrests
	t or F (df)	t or F (df)	t or F (df)
1. Require de-escalation	2.64 (37.34)*	0.60 (40)	0.66 (40)
2. Require use of force continuum	1.45 (40)	–0.56 (40)	–0.98 (40)
3. Ban chokeholds and strangleholds	1.42 (40)	0.70 (40)	–0.93 (40)
4. Require warning before deadly force	1.55 (40)	1.57 (40)	0.36 (40)
5. Ban shooting at moving vehicles	0.69 (40)	0.74 (40)	0.67 (40)
6. Requires exhaust all alternatives	0.00 (40)	0.14 (40)	–1.16 (40)
7. Duty to intervene	0.51 (40)	0.11 (40)	0.61 (40)
8. Require comprehensive reporting	2.62 (37.84)*	0.18 (40)	–0.54 (40)
Census region	0.48 (3)	0.36 (3)	1.02 (3)
Time period	2.05 (2)	0.48 (2)	0.70 (2)
Report all uses of force	1.52 (40)	2.43 (35.98)*	0.44 (40)

† = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$, two-tailed significances

These results provide no support for the second research hypothesis that more restrictive use of force policies are associated with fewer force-related injuries and deaths. Only two policy characteristics derived from #8cantwait have a significant association with the rate of officer injuries, and the relationships are positive. This indicates that agencies which require de-escalation ($t = 2.64$, $p < 0.05$) and deem the pointing of a firearm as a reportable use of force ($t = 2.62$, $p < 0.05$) report, on average, more officer injuries from use-of-force incidents than agencies which do not have these policy characteristics. The other six characteristics are insignificantly associated with

officer injuries, and none of the eight characteristics are significantly associated with citizen-related force outcomes.

No significant differences are observed between Census regions or time periods, and the reporting criteria variable is only significantly associated with the rate of citizen injuries ($t = 2.43$, $p < 0.05$). Taken together, these results provide no support for the second research hypothesis.

Multivariate Analyses

Due to the insignificances observed in the bivariate results (Table 10), primary sample analyses (Tables 6, 7, and 8), and limited sample size ($n = 42$), no multivariate analyses for the analytic subsample are reported in the current dissertation.

CHAPTER V

Discussion

In contemporary democracies, police leaders walk a “razor's edge” (Isenberg, 2010, p. 4). Police must safeguard 4th Amendment rights without abdicating their responsibility to conduct lawful searches and seizures of suspects who will not always comply. To balance these competing interests and provide a mechanism for accountability, police bureaucracies use binding written policies to regulate discretionary use-of-force behavior.

As legal frameworks evolve and new technologies emerge, police leaders frequently update their policy manuals. Some recent calls for police reform demand restrictive revisions to use-of-force policies as an alternative to more radical reforms, like defunding, disarming, or disbanding police entirely. The current dissertation analyzed a sample of large municipal police agencies that vary in their compliance with eight restrictive policy characteristics. This analysis contributes to our understanding of the relationship between use-of-force policy and practice and responds to a largely unanswered call for agency-level comparative work in this area (Adams & MacDonald, 2001).

The findings of this dissertation suggest that more restrictive use-of-force policy characteristics are not a panacea for use-of-force-related issues (Geller & Scott, 1992). Agency-level bivariate and multivariate analyses indicate that eight restrictive policy characteristics adapted from #8cantwait recommendations are not significantly associated with rates of force incidents, force-related injuries, and force-related deaths.

These results do not falsify the idea that more restrictive use-of-force policies can improve force-related outcomes, nor is this dissertation's research design intended to test direct causal claims. These results instead demonstrate that certain popular use-of-force policy reforms, in isolation, do not have a large enough effect on basic force-related outcomes to be detectable in a small sample of large municipal police agencies. While the quantity and quality of publicly available use-of-force policy and outcome data has improved markedly in the past decade, it is still insufficient to conduct robust agency-level analyses with the statistical power to detect small effects. These and other informative findings are now discussed, followed by a thorough overview of this dissertation's design limitations, recommendations for policymakers in the areas of police administration and use-of-force regulation, and directions for future researchers.

Restrictive Use-of-Force Policy Characteristics

Decades of prior research indicate that policy-based restrictions on discretionary police behavior can improve force-related outcomes (Fyfe, 1982; Prenzler et al., 2013; Sherman, 1983; Terrill & Paoline, 2017; Uelmen, 1973; Walker, 1993). These findings are encouraging to reform-oriented policymakers who do not wish to make radical alterations to the criminal justice system, as changes to policy, associated trainings, and relevant disciplinary mechanisms are relatively quick, affordable, and non-disruptive. Prior research also encourages activists who claim agencies can do more to restrict use-of-force behavior using written policy, like the #8cantwait movement advocates for.

The findings of this dissertation indicate that buy-in from police administrators is mixed. Despite numerous statements of support issued by police departments at the peak of #8cantwait's popularity (Associated Press, 2020; Campaign Zero, n.d.; City of

Chattanooga, n.d.; Clovis Police Department, n.d.; Culver City Crossroads, 2020; Farley, 2020; Irving Police Department, 2020), none of the 114 agencies in the primary sample include all 8 policy characteristics. Two characteristics, namely a requirement to issue verbal warnings before any application of deadly force and a blanket prohibition on shooting at moving vehicles, are not incorporated in any use-of-force policy analyzed in this dissertation.

There are reasonable tactical considerations which may explain this non-compliance. Verbal warnings are not feasible in all situations where deadly force is necessary to prevent immediate, life-threatening harm to the officer or other civilians. This is especially likely in active-shooter situations where a suspect uses a rifle to engage targets at range, as occurred during the 2017 Las Vegas shooting where a man fired over a thousand rounds from a 32nd-floor window (U.S. Department of Justice, n.d.). While these attacks are exceedingly rare, the possibility of situations where a verbal warning would be impossible or ineffectual understandably discourages police agencies from adapting brightline standards.

The same is true for brightline prohibitions on firing at moving vehicles, which #8cantwait recommends but none of the 114 agencies in this dissertation's sample conform to. While there are substantial risks associated with shooting at moving vehicles, it is unsurprising that no police agency in this sample chooses to restrict police discretion to this extent. Police administrators likely conceive of situations where a suspect uses a deadly weapon then enters a vehicle to facilitate future attacks or fire from open windows or sliding doors. Under a blanket ban on shooting at moving vehicles, this hypothetical suspect could be actively engaged by police in a gunfight, then enter a vehicle and

continue firing. To remain compliant with policy, this would force officers to disengage. A recent rise in mass-casualty vehicle-ramming attacks also discourages police administrators from fully adopting this #8cantwait recommendation. Police administrators frequently cite concerns over criminal awareness and adaptation to their use-of-force policies as a reason to avoid explicit prohibitions on certain force techniques (Geller & Scott, 1992).

These two policy characteristics are not the only ones that police administrators seem reluctant to adopt, as none of the eight characteristics were adopted by all agencies, even those operationalized as the minimum standard required by the Constitution. For example, the *Tennessee v. Garner* (1985) standard to issue a verbal warning when feasible is not reflected in 14 (12.3%) of the examined agency use-of-force policies. De-escalation tactics are not required by 35 (30.7%) agencies, nor do 35 (30.7%) agencies require officers to intervene and report to a supervisor when they believe a colleague is using excessive force. It is unclear why such a large proportion of agencies do not include these components in their use-of-force policies, especially given the stronger empirical support and lack of blatant tactical concerns associated with these requirements.

It is important to think critically about how specific policy reforms could affect use-of-force related outcomes, especially as measured by rates of force, injury, or death. Many of the ideas proposed by Campaign Zero are reasonable, as prior research indicates restrictive policies can be effective at restraining discretionary behavior, including the use of force. Some of the policy recommendations, however, seem likely to increase measured force outcomes, particularly the requirement to fully document all uses of force, including shows of force. It may be argued that this recommendation is intended to

reduce measurable force by requiring officers to be more prudent in deciding whether to draw their firearm or escalate an intense, dynamic situation. It seems at least equally likely, however, that such a policy requirement would increase use-of-force counts as officers and supervisors comply with more comprehensive data-collection standards.

This does not constitute an argument against adopting expansive definitions of reportable force, as more transparency in data collection is needed. Rather, it necessitates careful consideration and some rethinking of how to assess the impact of some use-of-force policy reforms. For example, while a duty-to-intervene requirement should theoretically reduce force-related injuries by deterring excessive force, any requirement that expands definitions of reportable force is unlikely to cause clear reductions in basic force metrics. If agencies with vague, permissive policy contexts systematically underreport force, improvements to data collection will appear to cause measurable increases in force outcomes, at least in the short term. Researchers would need to consider alternative measurement strategies to assess the effectiveness of such policy characteristics.

This discussion now shifts to assessing the null findings observed in bivariate and multivariate analyses, indicating no support for the research hypotheses that restrictive use-of-force policy characteristics are associated with reductions in police violence, as suggested by Campaign Zero (n.d.) and Sinyangwe (2016). It is critical that these findings are not misconstrued to signal that use-of-force policy characteristics are ineffective at reducing rates of force and associated injuries and deaths. Several of the policy characteristics assessed in the current dissertation have produced clear, desirable effects on use-of-force outcomes in single-agency, longitudinal studies. The cross-

sectional design used in this dissertation cannot falsify causal claims and does not invalidate prior studies that support certain restrictions on use-of-force behavior, such as de-escalation strategies (Engel et al., 2022), the duty to intervene (Jones-Brown et al., 2021) and reporting shows of force (Shjarback et al, 2021).

The findings of this dissertation instead indicate that the effects of the eight studied policy restrictions, absent any companion indicators of agency organizational context and policy compliance, do not have a large enough effect on basic use-of-force outcomes to be detectable in a small, cross-sectional study. This dissertation's sample size of 114 is sufficient to detect large effects, such as the impact of a requirement to report all physical force, not just physical force which causes an injury or complaint of injury. It was worth exploring whether the restrictive use-of-force policy characteristics had such a large effect, as this has never been examined in a comparative, agency-level analysis.

Furthermore, null and undesirable effects (i.e., positive associations) may be explained by the operationalization of basic use-of-force outcome variables. The bivariate analysis, for example, indicates that use-of-force continuums and requirements to report shows of force have a significant positive association with use-of-force rates (Table 6). While this dissertation's design hypothesizes a clear “fewer-is-better" relationship between restrictive policy characteristics and use-of-force outcomes, there are counterfactual theoretical explanations that may support these findings.

For example, the requirement to establish a specified use-of-force continuum may inflate rates of reported uses of force by clarifying reportable force and offering more lower-severity force options to officers. As another example, while shows of force were not included in the rate of use-of-force dependent variable, a formal requirement to

document these types of force may reflect more transparent force-reporting contexts. The positive bivariate associations between these policy characteristics and basic use-of-force outcomes may simply indicate more complete documentation of force incidents, which is a desirable outcome, rather than undesirable increases in the underlying force behavior.

These findings affirm the importance of specifying clear goals in the policymaking process and identifying appropriate measures to assess policy effectiveness. This dissertation accepted Sinyangwe's (2016) idea that #8cantwait characteristics that are designed to "reduce police violence" (Campaign Zero, n.d.), should measurably decrease rates of force, force-related injuries, and force-related deaths. As operationalized, however, these policy components likely have more nuanced effects on official force metrics, as the continuum and shows of force examples illustrate. Ideal policy evaluations require researchers and other stakeholders to be present from start to finish, ranging from identifying initial policy goals through assessing impacts from implementation. The goals of many of the policy characteristics studied are multifaceted as police leaders "walk the razor's edge," balancing legal compliance, officer interests, public demands, and political pressure (Isenberg, 2010, p. 4).

Publicly Accessible Use-of-Force Data

This dissertation's exploration of 619 police agency websites and data repositories reveal that only a small percentage of even the largest municipal agencies report use-of-force policies and outcome data. Despite recent improvements in transparency, only 114 agencies (18.4%) in the sampling frame reported policies and outcome data from the same year, and only 42 (6.8%) reported force-related injury and death data. This is a discouraging finding, given that the use-of-force is a key police function and tools for

data collection and transparent reporting to the public have improved markedly in recent decades.

All the police agencies examined have an actively maintained internet presence, and nearly all publish quarterly or annual reports that report dozens of metrics, such as calls for service, value of drugs and weapons seized, arrests made, cases closed, equipment purchased, and officers hired. This is expected, given that these large municipal agencies employ at least 100 full-time sworn officers and dozens of non-sworn, civil employees. Unfortunately, the issue of use-of-force is largely ignored in these websites and reports. This issue was perhaps first noted by Fyfe (1988, p. 174), who observed that, "amid their statistics on crimes reported and solved, calls received, tickets issued, and assaults on officers, even the glossiest police department annual reports rarely include any information on the frequency or the circumstances of police use of deadly force."

While there are clear disincentives to report use-of-force metrics, such as fear of litigation, bad press, and further erosion of community trust, the use-of-force by police is one of the most significant ways in which this institution interacts with the public. While the use of force is rare, it is highly consequential, and coercion is often necessary to preserve public safety and effect lawful searches and seizures. More transparency is needed, especially from agencies with the budget, staff, and technological sophistication to collect and report use-of-force policies and data annually. This dissertation cannot estimate the number of agencies that collect use-of-force data but do not report this information, however prior studies of police policy indicate that nearly all agencies have

written use-of-force policies regardless of agency size (Terrill & Paoline, 2012; 2017; 2018a).

For researchers, a primary consequence of the dearth of use-of-force data is that it is currently impossible to gather a sufficient sample to detect small effect sizes without a prohibitive investment of resources. Sinyangwe (2016), through Freedom of Information Act requests, only managed to obtain a sample of 91 agencies. This dissertation, using a thorough search procedure for 619 agencies, only managed to obtain a sample of 114 agencies. Neither of these samples are large enough, or even nearly large enough, to detect small and nuanced effects. This is especially true for multivariate analysis. In this dissertation, for example, typically significant predictors of use-of-force outcomes were insignificant across all negative binomial regression models, not just #8cantwait policy components (Tables 7 & 8). While considerable progress has been made in recent decades to unpack influences on individual use-of-force incidents, the role of policy on agency-level force outcomes will remain an outstanding gap until transparent reporting becomes the norm rather than the exception.

The Role of Private Companies

The exploratory nature of this dissertation was bound to present unexpected aspects of the relationship between use-of-force policy and practice. One such finding is the role of for-profit, private companies in writing and maintaining policies for police agencies. In this dissertation's review of 114 police policies, it was observed that 28 (24.6%) contracted with Lexipol LLC, a Texas-based company, to help write their policy manuals.

One study identified that Lexipol assists in policy development for over 3,500 police agencies across 35 states (Eagly & Schwartz, 2022), and the company's official website claims to serve 10,000 agencies and municipalities across the United States and Canada (Lexipol, n.d.). Several legal scholars characterize Lexipol's involvement as a barrier to policy-based reforms, citing examples of the company's focus on minimizing legal liability for their clients, maximizing officer discretion, prioritizing departmental interests while excluding other stakeholders, and at times recommending unlawful policy components (Ayers, 2023; Eagly & Schwartz, 2018, 2022; Meyn, 2021). One qualitative analysis of Lexipol white papers, training materials, and model use-of-force policies observes Lexipol's strong opposition to de-escalation tactics, use-of-force continuums, and any considerations as to the appropriate level of police force beyond maximal discretion established by the *Graham* standard (Eagly & Schwartz, 2022). Lexipol is an active participant in conventional and social media debates surrounding use-of-force best practices, frequently opposing proposed bills to restrict police discretion (Eagly & Schwartz, 2022; Lexipol, n.d.). Quantitative analyses are absent from these assessments of Lexipol's involvement in use-of-force policy development.

Due to Lexipol's widespread and criticized involvement in use-of-force policymaking, this dissertation examined Lexipol-copyrighted policies. The content of each Lexipol-authored policy varies significantly, as police administrators play an active role in adapting Lexipol model standards to fit each agency. Furthermore, state laws also contribute to observed variation in Lexipol policies across jurisdictions.

Associations between Lexipol-authorship and other policy- and agency-related variables were examined, the results of which indicate more nuanced effects of Lexipol

policy authorship than prior research suggests (Table 4). While the bivariate analysis supports prior findings that Lexipol opposes use-of-force continuums and requirements to exhaust alternatives prior to the use of deadly force, Lexipol-authorship was not significantly associated with the presence of de-escalation requirements and other brightline standards, such as banning the use of all neck restraints in all situations.

Furthermore, all 28 of the Lexipol policies require officers to intervene in cases of suspected excessive force and report the incident to a supervisor as soon as possible. By contrast, only 51 (59.3%) of non-Lexipol policies include this strict, evidence-based requirement. While this policy component is no doubt intended to reduce the risk of legal liability for Lexipol's clients, it is also a concrete rule that protects the safety of suspects beyond the bare minimum required by the *Graham* standard. Concrete rules and protections for suspects are typically regarded as unimportant to Lexipol, yet this characteristic appears in all 28 of the Lexipol-authored policies examined in this dissertation.

These findings do not invalidate prior work that demonstrates Lexipol's stated opposition to policy reform, especially vocal opposition to policy characteristics which go beyond minimum standards established by *Graham.* These results do, however, indicate that state laws and local police administrators considerably bolster the restrictiveness of Lexipol-authored policies. This challenges the idea presented by some scholars that, given Lexipol's views on use-of-force policy, subscribers to Lexipol's services will uncritically accept and reflect those views in their final, published policies (Eagly & Schwartz, 2022, p. 52). If this is true, the bivariate analysis would have indicated strong negative associations between Lexipol authorship and more of the

#8cantwait components, which are characterized by restrictive, brightline standards to prioritize the safety of suspects.

The presence of a duty to intervene and report requirement in all the Lexipol policies represents opportunities for common ground between policymakers seeking to protect officers from legal risk and activists seeking to protect suspects from police violence. This policy component contributes to both efforts, so it is likely that other dual-purpose components can be designed and implemented.

Taken together, these findings support the idea that the role of for-profit private companies, particularly Lexipol, in writing police policies should be scrutinized. Unlike police administrators, who are public servants, or community members who are subject to police authority, for-profit companies like Lexipol lack the same degree of accountability and personal interests at stake as other stakeholders. Unlike police administrators or the communities they serve, companies like Lexipol prioritize profit-motive, restrained only by state law and the input of local police administrators. While the motivations of private companies like Lexipol are not inherently incompatible with the public service aims of policing, recommendations made by these companies should be considered closely prior to implementation and impacts of their suggestions should be measured in detail. The findings of this dissertation indicate that the relationship between Lexipol and large-agency policies is not as straightforward as qualitative assessments of Lexipol's views may suggest.

Limitations

Several significant limitations to this dissertation's research design must be acknowledged and discussed. One key limitation of this study is its aggregation of dependent variables. The rate of use-of-force incidents, for example, includes several categories of force behavior ranging from soft-hand and pain-compliance techniques to deadly force. While #8cantwait standards are intended to reduce the use-of-force broadly, many of its policy recommendations deal specifically with excessive and deadly force (e.g., ban on neck restraints, ban on shooting at moving vehicles). Given the uncommon nature of deadly force relative to physical force, policy restrictions that are only designed to reduce the most severe forms of force are theoretically unlikely to cause significant reductions in overall force rates. This is especially applicable to incidents where an officer is still justified in using some form of force to effect a legal arrest. De-escalations like replacing a shooting with a taser application, or a baton strike with a pain-compliance technique are desirable outputs of these policy reforms that would have no effect on the aggregated use-of-force incident rate.

While the injury- and death-rate dependent variables are intended to address this limitation, they still obscure important contextual information. The injury variables include all forms of injury, ranging from bumps and bruises to life-altering injuries and fatalities. The death variable includes no measure of whether the application of force was justified. While some agencies report this vital contextual information, most do not. In the interest of maximizing sample size to permit some form of quantitative analysis, dependent variables were simplified to their final, aggregated operationalizations.

Another key limitation of this dissertation is the lack of organizational-contextual data beyond a few basic demographics (e.g., percent of female officers). The current dissertation cannot assess the extent to which use-of-force policy characteristics are communicated, regarded, or enforced in any of the sampled agencies. These are critical steps in the process between policy adoption at an organizational level and the decision to use force at the incident level. Policy changes must be communicated throughout a chain of command, incorporated into training, and accounted for in disciplinary frameworks. None of these steps are modeled in the current dissertation due to a lack of publicly available data.

This is a significant limitation, because policy research consistently demonstrates that an organizational culture of support for policy and compliance with its requirements are essential for policy changes to have a meaningful impact on behavior (Fyfe, 1987; Pate & Fridell, 1993; Wilson & McLaren, 1977). This is especially true for complex, non-regular tasks in atomized, low-supervision contexts like policing (Klinger, 1997, p. 284).

The negotiated-order framework posits that rules, like use-of-force policy characteristics, are negotiated by organization members based on shared perceptions of the institution and its environment. As a result, even the most detailed, restrictive, and evidence-based use-of-force policies will likely have no appreciable impact in policing contexts where policy characteristics are not known, communicated, understood, or respected. This dissertation's design does not examine the largely unknown balance of mechanisms responsible for desirable impacts of some restrictive use-of-force policy characteristics that have been observed in prior studies. This limitation could be

overcome with detailed, qualitative data collection on-site in each sampled agency to complement quantitative analyses like the one conducted in this dissertation.

Regarding sampling, this dissertation's sample size and sampling method constitute significant limitations. A primary sample size of 114 and analytic subsample size of 42 are mathematically sufficient to conduct the attempted analyses, but this small sample provides insufficient statistical power to detect small effects, particularly in multivariate analyses using negative binomial regression. Massive confidence intervals and borderline-adequate model fitness estimates confirm that the small sample substantially restricts precise estimations (Tables 7 & 8). This limitation could be overcome through more intensive data-collection methods, such as Freedom of Information Act requests, although many police agencies may not collect and store data at the level of specificity necessary to make agency-level comparisons of use-of-force policies and outcomes, and these requests are typically expensive and time-consuming.

This dissertation's sampling frame, which only contains large municipal police agencies, excludes 67.8% of full-time sworn officers and 96.5% of state and local police agencies (Gardner & Scott, 2022). While the primary sample is largely representative of the sampling frame (Table 3), this sampling method is certainly not representative of the broader context of policing in the United States, which is primarily conducted by much smaller agencies than the ones analyzed in the current dissertation. The decision to exclude smaller agencies aligns with the U.S. Bureau of Justice Statistics' "self-representing" standard for sampling personnel and policy information (Goodison, 2022, p. 15) and contemporary published research on police policy (Lawshe et al., 2022), but this substantially limits generalizability.

The cross-sectional design of this study is limiting. Without the ability to compare between pre- and post-implementation conditions, causal relationships cannot be inferred from observed associations between policies and outcomes in this dissertation. Furthermore, it can take time for policy changes to have an impact, as revised policy components must be incorporated into training, accountability structures, and communicated throughout the chain of command. This process is not instantaneous, therefore even a pre-/post- design should include multiple waves of data collection.

Furthermore, many county police agencies, particularly sheriff's offices in states where sheriffs are elected by popular vote, may have additional pressures on use-of-force policymaking that are not captured by this sample of municipal police agencies. To be clear, police administrators in the large cities represented in the current sample are subject to substantial political pressure. The appointed nature of municipal police leadership differs, however, from the elected nature of many sheriffs' offices in ways that could affect how use-of-force policies are designed, communicated, and enforced.

A potential threat to validity was observed while reviewing one agency's internal affairs annual report. In the report, the agency highlighted their use-of-force continuum. That agency's use-of-force policy, however, made no mention of a use-of-force continuum and had been coded as 0. This indicates that some agencies in the sample place certain restrictions and guidelines on the use of force in training and other written materials, but do not always include those components in their publicly accessible use-of-force policies. As such, it is a limitation that coding decisions were based solely on published use-of-force policies, as training materials and other written documentation may include binding restrictions that are not captured by a sampling of policy manuals.

Prior research indicates that encounter-specific characteristics are the strongest predictor of discretionary use-of-force behaviors (Bolger, 2015), so the lack of agency-level encounter characteristics constitutes a noteworthy limitation. Agencies will use more force in policing contexts where suspects resist at greater frequencies and in more serious ways, but these variables are omitted in the current dissertation due to a lack of publicly available data.

Some incongruities were observed in CSLLEA data, reflecting limitations inherent to self-report survey instruments. One county sheriff's office, for example, reported employing no female officers, despite noting numerous female lieutenants, captains, and majors on their website. While this agency was excluded from the sampling frame due to its status as a county agency, some inaccuracies may be present in the sampled data that were not caught during routine data cleaning. The use of FBI UCR data on arrests and offenses known to law enforcement is limiting, as these official crime sources cannot account for crimes that are not reported to police or properly documented. Another data-related limitation is the reliance on place-level Census data for municipalities. While a city's geographical boundaries typically overlap closely with a municipal police agency's jurisdiction, demographics from a city's residential population are not equal to the custodial jurisdiction of those agencies. Police agencies routinely stop, search, arrest, and use force on people who do not live within their city borders. For example, someone living in an unincorporated area that enters a city's police jurisdiction may be subject to force in an interaction with that city's police department, but that person would not be represented by Census counts for that municipality.

The final significant limitation is inevitable in a dissertation project but nevertheless must be acknowledged. Only one researcher, the author of this dissertation, examined and coded the sampled agency policies. This process included subjective decisions, including how to modify #8cantwait characteristic operationalizations when it was revealed that no agency conformed to two of the policy recommendations as written. Use-of-force policies are somewhat formulaic, but they are not highly standardized. Ideally, a small team of researchers would read and evaluate each policy, and inter-rater reliability scores would be calculated to assess subjective coding decisions. While the author strove to make accurate, transparent coding decisions, it is possible that other scholars reading the same set of policies may have differed in their coding decisions in ways that could affect the significance of some coefficients presented in the Results chapter.

Recommendations

While the context of this dissertation's research limitations should be kept in mind, the results of the exploratory analysis enable some recommendations for practitioners and indicate directions for future research. The main takeaway for police professionals and policymakers is that the criminal justice system has a role to play in improving data access to enable more confident, evidence-based solutions to use-of-force related issues. Many police agencies in the sample and some states have taken practicable steps to improve data collection and transparent reporting. For researchers, the main direction for future research is to continue unpacking mechanisms of the relationship between use-of-force policy and use-of-force outcomes. Once more complete agency-level data on policy and force outcomes are available, robust quantitative approaches can

be taken to better address questions related to the effectiveness of restrictive policy components.

Practitioners

For policymakers, a key indication of this research is that better data collection and more transparent reporting of policies and use-of-force outcomes are needed. Stakeholders in police use-of-force, particularly police administrators and the communities they serve, deserve better than to have to guess which policy-based reforms are effective. With current data limitations, however, viable research designs are limited, and the resulting evidence base has significant gaps. Outstanding calls for a complete, nationwide database of this information, which would enable more detailed quantitative analyses, have persisted since at least the 1980s (Fyfe, 1982b, p. 7). While considerable progress has been made in recent years, momentum has been sluggish to develop given such widespread public attention towards a vital output of policing.

Participation in the FBI's national use-of-force data collection has risen to 61% of agencies and 71% of sworn officers as of 2023, but data are only reported at the national and state levels of analysis, precluding agency-based comparisons. Crucially, these data only include force incidents that result in death or serious bodily injury, excluding most force applications. The fact that this is the most complete and expansive data source that exists for comparative studies of use-of-force illustrates just how much more progress is needed.

Beyond calls-to-action for local police administrators to voluntarily enroll and contribute data to the FBI's collection efforts, some researchers recommend the implementation of federal incentives to encourage greater compliance (Smith et al.,

2010). Given the impact of policy characteristics observed in prior research, data collection efforts should also capture policy characteristics, like requirements to de-escalate, presence of specified continuums, and blanket bans on neck restraints. Nationwide data collection on these and other predictors of force will give police administrators the tools to make evidence-based decisions about their policies.

To be clear, these recommendations are presented to benefit policymakers, not merely add more responsibilities to their workload. Sufficiently detailed data collection is not a trivial task, nor are thorough reporting procedures and the maintenance of accessible data repositories. These recommendations are made, however, in the belief that the returns will vastly outweigh such an investment. While several high-quality, single-agency longitudinal studies contribute to our understanding, police administrators have little else to go on when deciding whether to modify their use-of-force policies. Given the risks to individual health, community trust, and legal liability presented by acts of excessive and unjustifiable force, police administrators would be well served by having a robust, developed evidence base. Comparative agency-level studies would provide more evidence to draw from to determine what works and how best to implement it.

State legislatures can do more to incentivize and assist local police agencies in expanding data collection and reporting. California, through SB 978, requires police departments to post policies on their websites and reimburses agencies for costs accrued during that process. The New Jersey Office of the Attorney General maintains a detailed, agency-level database on all uses-of-force, not just incidents that cause serious injury or death. Greater investment in state databases would be a welcome intermediate step towards complete, nationwide data.

To enable sufficiently detailed analyses, institutions that maintain use-of-force databases should disaggregate incident counts by force techniques used, so the impact of policy characteristics and other decisions on specific force behaviors can be assessed. Some agencies in this dissertation's sample reported the most serious force technique used in each incident. Done on a larger scale, this strategy would be invaluable for assessing associations between policy components and specific physical force techniques and intermediate weapons.

The 114 agencies in this sample, with their transparent presentation of use-of-force policy and outcome characteristics, serve as examples that can be replicated, especially by agencies with larger workforces. Many of the sampled agencies were proud to highlight how infrequently they use force, the steps they have made to improve force-outcomes and be more transparent in their procedures, and how rarely officers and suspects are injured or killed relative to the number of police-citizen contacts. These approaches indicate that police administrators need not regard use-of-force transparency solely as a risk and a burden. Community trust may improve if agencies more commonly communicate, in annual reports, webpages, and social media, the steps they have taken to restrict officer discretion and minimize the use of force alongside measured outcomes of those decisions. Collaboration with external researchers may benefit this process, reducing the burden of scouring prior research, conducting proper analyses, and clearly reporting findings to the community.

Researchers

For those who research police use of force, this dissertation indicates a few directions for future inquiry. Comparative research is not yet possible with the statistical power necessary to detect the effects of specific use-of-force policy components, given present data limitations at the agency-level. Prior research indicates that use-of-force incidents and severity are largely predicated on levels of suspect resistance and an officer's decision to arrest, and written policy components must be embedded in an organizational context favorable to policy compliance. These facts place a theoretical upper bound on the direct effects of specific use-of-force restrictions on use-of-force outcomes. This dissertation's result indicates that the theoretical upper bound is too low to detect in a comparative, cross-sectional study with a sample of 114 agencies.

Furthermore, some policy reforms may theoretically increase aggregated, official measures of force, especially those that expand definitions of reportable force and encourage the use of less-severe techniques. Once data limitations can be overcome by more complete, agency-level databases of policies and outcomes, future research can overcome many of the limitations present in this dissertation's design. The results of those future studies will enable more confident, specified recommendations to practitioners.

There are, however, opportunities and outstanding questions that do not require a nationwide, agency-level sample to address. In the shorter-term, researchers should prioritize the continuation of rigorous, mixed-methods designs in single- and multi-agency settings. For example, the addition of qualitative components, like interviews with police administrators and line-level officers, would serve as an excellent complement to

the quantitative design used by Terrill and Paoline (2017) to compare use-of-force outcomes between three agencies that differ in policy restrictiveness. Any study of the impacts of use-of-force policy characteristics should strive to incorporate as much organizational-contextual data as possible to clarify effective mechanisms. This will help police administrators identify the most effective aspects of promising use-of-force policy restrictions.

In this area, true randomization of policy characteristics may not be ethical or feasible, but strong longitudinal designs with comparison groups, bolstered by robust qualitative insights, will further our understanding of how policy reforms can reduce the frequency and severity of police force without compromising their ability to safely conduct lawful searches and seizures. Do more restrictive policies on their own improve outcomes by shaping officer discretion in trainings? To what extent do these policy components merely reflect less violent agency cultures? More work is needed to begin addressing causal research questions, but descriptive and associative findings such as those presented in this dissertation indicate that there exists sufficient variation nationwide in policy components, organizational context, and use-of-force outcomes to assess these questions.

Researchers must seek out agencies that have made substantial policy changes and keep thorough records of use-of-force incidents. These data can be used to identify success stories and policy components or organizational contexts that are not conducive to improving force-related outcomes. The results of this dissertation demonstrate that written policies alone are unlikely to cause substantial drops in the overall count of force-related incidents, injuries, and deaths. Written policies do, however, shape discretionary

behavior, particularly in organizational contexts of consistent communication, supervision, and accountability that ensure program compliance. Researchers have a role to play in identifying the most effective policy components and mechanisms to improve incident-level outcomes.

Conclusion

Policing in a democracy is no easy task. The public, through the social contract, have delegated the task of resolving dangerous disputes and chaotic situations to state professionals acting under the color of law. Given the lack of popular support around funding proactive approaches to reduce criminogenic conditions, policing is a largely reactive institution. As a result, police-citizen contacts are numerous and often hectic, and any interaction can, based on the decisions of officers and civilians alike, escalate to necessitate a search or seizure. If a suspect refuses to comply, this may predicate a force response.

In a democracy, the police cannot ignore other considerations in the name of order maintenance and officer safety. Instead, police must respect the dignity and rights of citizens and continuously maintain the consent of governed people (Goldstein, 2018, p. 7). Minimizing the severity and frequency of force is a way to meet these objectives, but choosing an appropriate force response in dynamic situations is considerably difficult. Life-or-death consequences demand that police administrators and other stakeholders get those decisions right every time, walking the fine line to manage officer discretion and balance competing interests.

While some advocate for policy reform to improve force-related outcomes, the results of this dissertation affirm that many popular policy recommendations do not have

large effects on basic use-of-force outcomes. Policy reforms must be carefully tailored and closely measured, and impacts are likely to be marginal relative to other considerations, primarily an officer's decision to escalate a situation through searches and seizures and a suspect's decision to escalate a situation through criminal acts and non-compliance. This is not to say that written policy components are unimportant for researchers and policymakers, as even small reductions in the frequency and severity of police force will save lives, reduce injuries, prevent trauma, and save money.

At present, publicly available data on use-of-force policies and outcomes are insufficient to accurately estimate those small but consequential effects of specific policy characteristics. This dissertation demonstrates that the upper bound on effect sizes is too low to detect using aggregated dependent variables and a sample of 114 agencies. Practitioners at the agency- and state- level must continue improvements to data collection and transparency around the use-of-force, and researchers must be prepared to meet these emerging data with responsible, transparent analyses.

REFERENCES

Adams, K. (2001). What we know about police use of force. In W. R. Palacios, P. F. Cromwell, R. G. Dunham (Eds.). *Crime & justice in America: Present realities and future prospects* (2nd ed., pp. 130-144). Pearson.

Alpert, G. P. (1997). Pursuit driving: Planning policies and action from agency, officer, and public information. *Police Forum, 7*(1), 1-12. https://monk.radford.edu/records/item/16222-police-forum-vol-7-no-1

Alpert, G. P., & MacDonald, J. M. (2001). Police use of force: An analysis of organizational characteristics. *Justice Quarterly, 18*(2), 393-409. https://doi.org/10.1080/07418820100094951

Alpert, G. P., & Smith, W. C. (1994). Developing police policy: An evaluation of the control principle. *American Journal of Police, 13*(2), 1-20.

Alpert, G. P., & Smith, W. C. (1994). How reasonable is the reasonable man?: Police and excessive force. *The Journal of Criminal Law & Criminology, 85*(2), 481-501.

Associated Press. (2020, June 6). Reno Police revise use-of-force policy; Chokeholds banned. *Las Vegas Sun.* https://lasvegassun.com/news/2020/jun/06/reno-police-revise-use-of-force-policy-chokeholds/

Atherley, L. T., & Hickman, M. J. (2014). Controlling use of force: Identifying police use of excessive force through analysis of administrative records. *Policing, 8*(2), 123-134. https://doi.org/10.1093/police/pau003

Ayers, A. (2023). The impossibility of local police reform. *Fordham Urban Law Journal, 50*(4), 609-655.

Bazley, T. D., Lersch, K. M., & Mieczkowski, T. (2007). Officer force versus suspect resistance: A gendered analysis of patrol officers in an urban police department. *Journal of Criminal Justice, 35*, 183-192. https://doi.org/10.1016/j.jcrimjus.2007.01.005

Beck, B., Antonelli, J., LaScala-Gruenewald, A. (2024). Neck restraint bans, law enforcement officer unions, and police killings. *Criminology & Public Policy,* 1-24. https://doi.org/10.1111/1745-9133.12658

Bennell, C., Alpert, G., Andersen, J. P., Arpaia, J., Huhta, J., Kahn, K. B., Khanizadeh, A., McCarthy, M., McLean, K., Mitchell, R. J., Nieuwenhuys, A., Palmer, A., & White, M. D. (2021). Advancing police use of force research and practice: Urgent issues and prospects. *Legal and Criminological Psychology, 26,* 121-144. https://doi.org/10.1111/lcrp.12191

Berman, M., & Clement, S. (2023, February 3). Post-ABC poll: Confidence in police drops after Tyre Nichols beating. *The Washington Post.* https://www.washingtonpost.com/nation/2023/02/03/post-abc-poll-police-tyre-nichols/

Bishopp, S. A., Klinger, D. A., & Morris, R. G. (2015). An examination of the effect of a policy change on police use of TASERs. *Criminal Justice Policy Review, 26*(7), 727-746. https://doi.org/10.1177/0887403414543558

Bittner, E. (1970). *The functions of the police in modern society* [NCJ #147822]. National Institute of Mental Health. https://www.ojp.gov/pdffiles1/Digitization/147822NCJRS.pdf

Blalock, H. M. (1967). *Toward a theory of minority-group relations.* Wiley.

Bolger, P. C. (2015). Just following orders: A meta-analysis of the correlates of American police officer use of force decisions. *American Journal of Criminal Justice, 40*, 466-492. https://doi.org/10.1007/s12103-014-9278-y

Bonta, R. (2021). *2021 use of force incident reporting.* California Department of Justice. https://data-openjustice.doj.ca.gov/sites/default/files/2022-08/USE%20OF%20FORCE%202021.pdf

Bozeman, W. P., Vilke, G. M., Hall, C., Klinger, D. A., Ross, D. L., Bennell, C., Petit, N. P., Miller, D. L., Ford, K. K., Hiestand, B., & Stopyra, J. P. (2022). Safety of vascular neck restraint applied by law enforcement officers. *Journal of Forensic and Legal Medicine, 92*(102446), 1-4. https://doi.org/10.1016/j.jflm.2022.102446

Campaign Zero. (n.d.). *#8cantwait.* Retrieved October 24, 2023, from https://8cantwait.org/

Campaign Zero. (2022, March 1). *Research basis.* https://docs.google.com/document/d/1YW132-LCtECh0zFHxMGZV-Hnv8NLHhZjfihdDApWXow

Chapman, S. G. (1982). Police policy on the use of firearms. In J. J. Fyfe (Ed.). *Readings on police use of deadly force* (pp. 224-257). Police Foundation.

Chicago Police Department. (n.d.). *Data collection, analysis, & management.* Retrieved February 23, 2024, from https://home.chicagopolice.org/transform/improvements/data-collection-analysis-management/

Chicago Tribune. (2014, August 11). Protests near St. Louis continue for slain teen after riot, arrests. http://www.chicagotribune.com/news/nationworld/chi-missouri-police-shooting-20140811-story.html

City of Chattanooga. (n.d.). *#8cantwait.* https://connect.chattanooga.gov/8-cant-wait/

City of Houston (n.d.). *Police transparency hub.* Retrieved February 23, 2024, from https://policetransparency-mycity.hub.arcgis.com/

Clovis Police Department. (n.d.). *Where we stand.* City of Clovis. https://cityofclovis.com/police/general-information/where-we-stand/

Connor, G. (1991). Use of force continuum: Phase II [NCJ #132695]. *Law & Order, 39*(3), 30-32.

Crawford, C., & Burns, R. (2008). Police use of force: Assessing the impact of time and space. *Policing & Society, 18*(3), 322-335. https://doi.org/10.1080/10439460802292926

Culver City Crossroads. (2020, June 8). *CCPD updates 'use of force' policy.* https://culvercitycrossroads.com/2020/06/08/ccpd-update-use-of-force-policy/

Davey, M., & Bosman, J. (2014, November 24). Protests flare after Ferguson police officer is not indicted. *The New York Times.* http://www.nytimes.com/2014/11/25/us/ferguson-darren-wilson-shooting-michael-brown-grand-jury.html

Davis, K. C. (1971). *Discretionary justice: A preliminary inquiry.* University of Illinois Press.

Dorsey, J. [@jack]. (2020, June 3). *Joining #8cantwait.* [Tweet]. Twitter. https://twitter.com/jack/status/1268283262620712960

Durkheim, E. (1938). *The rules of sociological method* (8th ed.). University of Chicago Press.

Eagly, I. V., & Schwartz, J. C. (2018). Lexipol: The privatization of police policymaking. *Texas Law Review, 96*(5), 891-976.

Eagly, I. V., & Schwartz, J. C. (2022). Lexipol's fight against police reform. *Indiana Law Journal, 97*, 1-57.

Earl, W. (2020, June 4). *Oprah, Ariana Grande and more champion 8 Can't Wait, project to reduce police violence.* Variety. https://variety.com/2020/biz/news/8-cant-wait-reduce-police-violence-oprah-ariana-grande-1234625314/

Eith, C., & Durose, M. R. (2011). *Contacts between police and the public, 2008* [NCJ #234599]. U.S. Department of Justice, Bureau of Justice Statistics. https://bjs.ojp.gov/content/pub/pdf/cpp08.pdf

Engel, R. S., Corsaro, N., Isaza, G. T., & McManus, H. D. (2022). Assessing the impact of de-escalation training on police behavior: Reducing police use of force in the Louisville, KY Metro Police Department. *Criminology & Public Policy, 21,* 199-233. https://doi.org/10.1111/1745-9133.12574

Farley, K. (2020, June 5). *KPD statement on use of force policy.* City of Knoxville. https://www.knoxvilletn.gov/archived_news_stories/2020/k_p_d_statement_on_use_of_force_policy

Feloni, R. (2017, December 1). Tim Ferriss lives his life according to an ancient Greek quote that helps him prepare for the worst. *Business Insider.* https://www.businessinsider.com/tim-ferriss-favorite-quote-greek-philosopher-archilochus-2017-12

Ferdik, F. V., Kaminski, R. J., Cooney, M. D., & Sevigny, E. L. (2014). The influence of agency policies on conducted energy device use and police use of lethal force. *Police Quarterly, 17*(4), 328-358. https://doi.org/10.1177/1098611114548098

Fyfe, J. J. (1981). Observations on police deadly force. *Crime & Delinquency, 27*(3), 376-389.

Fyfe, J. J. (1982a). Administrative interventions on police shooting discretion: An empirical examination. In J. J. Fyfe (Ed.). *Readings on police use of deadly force*. (pp. 258-281). Police Foundation.

Fyfe, J. J. (1982b). *Readings on police use of deadly force.* Police Foundation.

Fyfe, J. J. (1988). Police use of deadly force: Research and reform. *Justice Quarterly, 5*(2), 165-206.

Gardner, A. M., & Scott, K. M. (2022). *Census of state and local law enforcement agencies, 2018 – Statistical tables* [NCJ #302187]. U.S. Department of Justice, Bureau of Justice Statistics. https://bjs.ojp.gov/sites/g/files/xyckuh236/files/media/document/csllea18st.pdf

Garner, J. H., Hickman, M. J., Malega, R. W., & Maxwell, C. D. (2018). Progress toward national estimates of police use of force. *Plos One, 13*(2), 1-23. https://doi.org/10.1371/journal.pone.0192932

Geller, W. A., & Scott, M. S. (1992). *Deadly force: What we know – A practitioner's desk reference on police-involved shootings.* Police Executive Research Forum.

Goodison, S. E. (2022). *Local police departments personnel, 2020* [NCJ #305187]. U.S. Department of Justice, Bureau of Justice Statistics. https://bjs.ojp.gov/sites/g/files/xyckuh236/files/media/document/lpdp20.pdf

Goldstein, H. (1967). Police policy formulation: A proposal for improving police performance. *Michigan Law Review, 65*(6), 1123-1146.

Goldstein, H. (1979). Improving policing: A problem-oriented approach. *Crime & Delinquency, 25*(2), 236-258.

Goldstein, H. (2018). On problem-oriented policing: The Stockholm lecture. *Crime Science, 7*(13), 1-9. https://doi.org/10.1186/s40163-018-0087-3

Gottfredson, M. R., & Hindelang, M. J. (1979). A study of the behavior of law. *American Sociological Review, 44*(2), 3-18.

Grande, A. [@ArianaGrande]. (2020, June 3). *Today Campaign Zero launched #8cantwait, a list of 8 policies to reduce police violence that can be changed immediately and…* [Tweet]. Twitter. https://twitter.com/ArianaGrande/status/1268280914725011460

Graham v. Connor, 490 U.S. 386 (1989). https://casetext.com/case/graham-v-connor

Gross, J., & Eligon, J. (2020, December 10). Minneapolis city council votes to remove $8 million from police budget. *The New York Times.* https://www.nytimes.com/2020/12/10/us/minneapolis-police-funding.html

Hansen, J. A., Rojek, J., Wolfe, S. E., Alpert, G. P. (2015). The influence of department policy and accountability on officer-involved collisions. *Policing: An International Journal of Police Strategies and Management, 38*(3), 578-594. https://doi.org/10.1108/PIJPSM-03-2015-0042

Hickman, M. J., Atherley, L. T., Lowery, P. G., & Alpert, G. P. (2015). Reliability of the force factor method in police use of force research. *Police Quarterly, 18*(4), 368-396. https://doi.org/10.1177/1098611115586175

Hickman, M. J., Scales, R. M., Strote, J. N., & Worrall, J. L. (2021). Use of vascular neck restraints in law enforcement: A case-study of Spokane, WA. *Police Practice and Research, 22*(6), 1668-1678. https://doi.org/10.1080/15614263.2021.1948849

International Association of Chiefs of Police. (2001). *Police use of force in America.* https://www.theiacp.org/sites/default/files/2018-08/2001useofforce.pdf

International Association of Chiefs of Police. (n.d.). *Policy.* Retrieved January 11, 2024 from https://www.theiacp.org/topics/policy

Irving Police Department. (2020). *General orders – Response to resistance – 303.00.* City of Irving. https://www.cityofirving.org/3687/Response-to-Resistance-Policy

Isenberg, J. (2010). *Police leadership in a democracy: Conversations with America's police chiefs.* Taylor & Francis Group.

Jacoby, F. (1941). The date of Archilochos. *The Classical Quarterly, 35*(3-4), 97-109. https://doi.org/10.1017/S0009838800027531

Jennings, J. T., & Rubado, M. E. (2017). Preventing the use of deadly force: The relationship between police agency policies and rates of officer-involved gun deaths. *Public Administration Review, 77*(2), 217-226. https://doi.org/10.1111/puar.12738

Johnson v. Glick, 481 F.2d 1028 (2d Cir. 1973). https://casetext.com/case/johnson-v-glick

Johnson, D. C. (2014). Defensive tactics and physical fitness training. *The Bill Blackwood Law Enforcement Management Institute of Texas.* https://shsu-ir.tdl.org/server/api/core/bitstreams/41e95f04-d84a-436c-a6c1-8bbb0df559db/content

Jones-Brown, D., Dawson, A., Blount-Hill, K. L., Fuller, K. M., Oder, P., & Fradella, H. F. (2021). Am I my brother's keeper: Can duty to intervene policies save lives and reduce the need for special prosecutors in officer-involved homicide cases? *Criminal Law Bulletin, 57*(5), 1-67.

Kahn-Fogel, N. A. (2021). Probabilistic presumptions in Fourth Amendment decision-making. *Houston Law Review, 59*(2), 313-362.

Kaplan, J. (2023). *Jacob Kaplan's concatenated files: Uniform Crime Reporting (UCR) program data: Arrests by age, sex, and race, 1974-2021, version 15.* ICPSR [distributor]. https://doi.org/10.3886/E102263V15-136000

Kaplan, J. (2023). *Jacob Kaplan's concatenated files: Uniform Crime Reporting (UCR) program data: Offenses known and clearances by arrest (Return A), 1960-2022, version 20.* ICPSR [distributor]. https://doi.org/10.3886/E100707V20-142822

Kelling, G. L., & Moore, M. H. (1988). The evolving strategy of policing. *Perspectives on Policing, 4.* https://www.ojp.gov/pdffiles1/nij/114213.pdf

Kim, D., Phillips, S. W., & Bishopp, S. A. (2021). Exploring the police use of force continuum with a partial proportional odds model. *Policing: An International Journal, 45*(2), 252-265. https://doi.org/10.1108/PIJPSM-08-2021-0105

Klinger, D. A. (1997). Negotiating order in patrol work: An ecological theory of police response to deviance. *Criminology, 35*(2), 277-306.

Klinger, D. A., Rosenfeld, R., Isom, D., & Deckard, M. (2016). Race, crime, and the micro-ecology of deadly force. *Criminology & Public Policy, 15*(1), 193-222. https://doi.org/10.1111/1745-9133.12174

Korhonen, V. (2023). *Number of people killed by police U.S. 2013-2023* [Data set]. Statista. https://www.statista.com/statistics/1362796/number-people-killed-police-us/

Lawshe, N. L., Zimmerman, G. M., & Stowell, J. (2022). Examining the spatial distribution and contextual correlates of body-worn camera adoption in the USA. *Policing: A Journal of Policy and Practice, 16*(4), 731-751. https://doi.org/10.1093/police/paac014

Lawton, B. A. (2007). Levels of nonlethal force: An examination of individual, situational, and contextual factors. *Journal of Research in Crime and Delinquency, 44*(2), 163-184. https://doi.org/10.1177/0022427806297738

Lee, H., Jang, H., Yun, I., Lim, H., Tushaus, D. W. (2010). An examination of police use of force utilizing police training and neighborhood contextual factors: A multilevel analysis. *Policing: An International Journal of Police Strategies and Management, 33*(4), 681-702. https://doi.org//10.1108/13639511011085088

Lee, J. (2016). Police use of nonlethal force in New York City: Situational and community factors. *Policing and Society, 26*(8), 875-888. https://doi.org/10.1080/10439463.2014.989162

Lemann, M. M., Chafee, Z., Jr., Pollak, W. H., & Stern, C. S. (1931). *Report on lawlessness in law enforcement* [NCJ #44549]. National Commission on Law Observance and Enforcement. United States Government Printing Office. https://www.ncjrs.gov/pdffiles1/Digitization/44549NCJRS.pdf

Lentz, S. A., & Chaires, R. H. (2007). The invention of Peel's principles: A study of policing 'textbook' history. *Journal of Criminal Justice, 35,* 69-79. https://doi.org/10.1016/j.jcrimjus.2006.11.016

Lexipol. (n.d.). *Police use of force.* Retrieved May 3, 2024, from https://useofforce.lexipol.com/f

Lim, H., & Lee, H. (2015). The effects of supervisor education and training on police use of force. *Criminal Justice Studies, 28*(4), 444-463. https://doi.org/10.1080/1478601X.2015.1077831

Londoño, E. (2023, June 16). How 'defund the police' failed. *The New York Times*. https://www.nytimes.com/2023/06/16/us/defund-police-minneapolis.html

Manning, P. K. (1997). *Police work: The social organization of policing* (2nd ed.). Waveland Press.

Mapping Police Violence. (n.d.). *Police killed at least 1,232 people in 2023.* Retrieved January 15, 2024, from https://mappingpoliceviolence.us/

Mayhall, P. D. (1985). *Police-community relations and the administration of justice* (3rd ed.). John Wiley and Sons.

McCarthy, M., Porter, L., Townsley, M., & Alpert, G. (2019a). A typology of citizen presentations in police use of force events: Are there ecological drivers? *Police Quarterly, 22*(3), 360-387. https://doi.org/10.1177/1098611119835535

McCarthy, M., Porter, L., Townsley, M., & Alpert, G. (2019b). Influence of community characteristics on serious police use of force events in an Australian policing jurisdiction: A test of minority threat, social disorganisation, and ecological

contamination theories. *Policing and Society, 29*(9), 1091-1108. https://doi.org/10.1080/10439463.2018.1493109

McCarthy, M., Porter, L., Townsley, M., & Alpert, G. (2019c). The effect of community-oriented policing on police use of force: Does community matter? *Policing: An International Journal, 42*(4), 556-570. https://doi.org/10.1108/PIJPSM-10-2018-0148

McEwen, T. (1996). *National data collection on police use of force* [NCJ #160113]. U.S. Department of Justice, Bureau of Justice Statistics. https://bjs.ojp.gov/content/pub/pdf/ndcopuof.pdf

McLean, K., Alikhan, A., & Alpert, G. P. (2023). Re-examining the use of force continuum: Why resistance is not the only driver of use of force decisions. *Police Quarterly, 26*(1), 85-110. https://doi.org/10.1177/10986111211066353

Meyn, I. (2021). The invisible rules that govern use of force. *Wisconsin Law Review, 2021*(3), 593-656.

Morrow, W. J., Berthelot, E. R., & Vickovic, S. G. (2018). Police use of force: An examination of the minority threat perspective. *Criminal Justice Studies, 31*(4), 368-387. https://doi.org/10.1080/1478601X.2018.1513837

Mourtgos, S. M., & Adams, I. T. (2020). Assessing public perceptions of police use-of-force: Legal reasonableness and community standards. *Justice Quarterly, 37*(5), 869-899. https://doi.org/10.1080/07418825.2019.1679864

Mourtgos, S. M., Adams, I. T., & Baty, S. R. (2022). Challenging the ordinality of police use-of-force policy. *Criminal Justice Policy Review, 33*(2), 119-147. https://doi.org/10.1177/08874034211038346

The National Advisory Commission on Civil Disorders. (1968). *Report of the National Advisory Commission on Civil Disorders* [NCJ #8073]. United States Government Printing Office. https://belonging.berkeley.edu/sites/default/files/kerner_commission_full_report.pdf

Nix, J. (2020). On the challenges associated with the study of police use of deadly force in the United States: A response to Schwartz & Jahn. *PLoS ONE, 15(7),* 1-11 [e0236158]. https://doi.org/10.1371/journal.pone.0236158

Office of Community Oriented Policing Services. (2015). *The President's task force on 21st century policing implementation guide: Moving from recommendations to action.* United States Department of Justice. https://portal.cops.usdoj.gov/resourcecenter/RIC/Publications/cops-p341-pub.pdf

Oliver, W. M. (2017). *August Vollmer: The father of American policing.* Carolina Academic Press.

Paoline, E. A., III, & Terrill, W. (2007). Police education, experience, and the use of force. *Criminal Justice and Behavior, 34*(2), 179-196. https://doi.org/10.1177/0093854806290239

Pate, A. M., & Fridell, L. A. (1993). *Police use of force: Official reports, citizen complaints, and legal consequences* [NCJ #146825]. Police Foundation. https://www.ojp.gov/pdffiles1/Digitization/146825NCJRS.pdf

Prenzler, T., Porter, L., & Alpert, G. P. (2013). Reducing police use of force: Case studies and prospects. *Aggression and Violent Behavior, 18,* 343-356. https://doi.org/10.1016/j.avb.2012.12.004

The President's Commission on Law Enforcement and Administration of Justice. (1967). *Task force report: The police* [NCJ #147374]. United States Government https://www.ojp.gov/pdffiles1/Digitization/147374NCJRS.pdf

Reith, C. (1952). *A new study of police history.* Faber and Faber Limited.

Riksheim, E. C., & Chermak, S. M. (1993). Causes of police behavior revisited. *Journal of Criminal Justice, 21*, 353-382.

Rockwell, A. R., Bishopp, S. A., & Orrick, E. A. (2020). Do policy and training changes influence patterns of police use of force? An interrupted time-series analysis. *Policing: An International Journal, 44*(3), 469-482. https://doi.org/10.1108/PIJPSM-07-2020-0128

Ross, D. L. (2002). An assessment of Graham v. Connor, ten years later. *Policing: An International Journal of Police Strategies & Management, 25*(2), 294-318. https://doi.org/10.1108/13639510210429383

Rousseau, J. (1762/1968). *The social contract.* Penguin Classics.

Rydberg, J., & Terrill, W. (2010). The effect of higher education on police behavior. *Police Quarterly*, *13*(1), 92-120. https://doi.org/10.1177/1098611109357325

Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*(5328), 918-924. https://doi.org/10.1126/science.277.5328.918

Sampson, R. J., Sharkey, P., & Raudenbush, S. W. (2008). Durable effects of concentrated disadvantage on verbal ability among African-American children. *PNAS, 105*(3), 845-852. https://doi.org/10.1073/pnas.0710189104

Sherman, L. W. (1980). Causes of police behavior: The current state of quantitative research. *Journal of Research in Crime and Delinquency, 17*(1), 69-100.

Sherman, L. W. (1983). Reducing police gun use: Critical events, administrative policy and organizational change. In M. Punch (Ed.), *Control in the police organization.* (pp. 98-125). Massachusetts Institute of Technology Press.

Shjarback, J. A., White, M. D., & Bishopp, S. A. (2021). Can police shootings be reduced by requiring officers to document when they point firearms at citizens? *Injury Prevention, 27*(6), 508-513. https://doi.org/10.1136/injuryprev-2020-043932

Simon, C. A., Moltz, & Lovrich, N. P. (2021). Police use of force and nativity: Revisiting standing evidence of public opinion on police use of force. *Police Practice and Research, 22*(1), 1077-1094. https://doi.org/10.1080/15614263.2020.1772781

Sinyangwe, S. (2016). Examining the role of use of force policies in ending police violence. *Social Science Research Network.* http://dx.doi.org/10.2139/ssrn.2841872

Skolnick, J. H., & Fyfe, J. J. (1993). *Above the law: Police and the excessive use of force.* The Free Press, Macmillan, Inc.

Smith, B. W., & Holmes, M. D. (2014). Police use of excessive force in minority communities: A test of the minority threat, place, and community accountability hypotheses. *Social Problems, 61*(1), 83-104. https://doi.org/10.1525/sp.2013.12056

Smith, M. R., Kaminski, R. J., Alpert, G. P., Fridell, L. A., MacDonald, J., & Kubu, B. (2010). *A multi-method evaluation of police use of force outcomes: Final report*

to the National Institute of Justice. [NCJ #231176]. https://www.ojp.gov/pdffiles1/nij/grants/231176.pdf

Tapp, S. N., & Davis, E. J. (2022). *Contacts between the police and the public, 2020* [NCJ #304527]. U.S. Department of Justice, Bureau of Justice Statistics. https://bjs.ojp.gov/sites/g/files/xyckuh236/files/media/document/cbpp20.pdf

Tennenbaum, A. N. (1994). The influence of the Garner decision on police use of deadly force. *Journal of Criminal Law and Criminology, 85*(1), 241-260.

Tennessee v. Garner, 471 U.S. 1 (1985). https://casetext.com/case/tennessee-v-garner-memphis-police-department-v-garner

Terrill, W., & Ingram, J. R. (2016). Citizen complaints against the police: An eight city examination. *Police Quarterly, 19*(2), 150-179. https://doi.org/10.1177/1098611115613320

Terrill, W., & Paoline, E. A., III. (2012). Examining less lethal force policy and the force continuum: Results from a national use-of-force study. *Police Quarterly, 16*(1), 38-65. https://doi.org/10.1177/1098611112451262

Terrill, W., & Paoline, E. A., III. (2017). Police use of less lethal force: Does administrative policy matter? *Justice Quarterly, 34*(2), 193-216. https://doi.org/10.1080/07418825.2016.1147593

Terrill, W., & Reisig, M. D. (2003). Neighborhood context and police use of force. *Journal of Research in Crime and Delinquency, 40*(3), 291-321. https://doi.org/10.1177/0022427803253800

Terrill, W., Paoline, E. A., III, & Ingram, J. R. (2018). Beyond the final report: A research note on the Assessing Police Use of Force Policy and Outcomes project.

Policing: An International Journal, 41(2), 194-201. https://doi.org/10.1108/PIJPSM-04-2017-0047

Thomas, K. J., Collins, P. A., & Lovrich, N. P. (2010). Conducted energy device use in municipal policing: Results of a national survey on policy and effectiveness assessments. *Police Quarterly, 13*(3), 290-315. https://doi.org/10.1177/1098611110373995

Uelmen, G. F. (1973). Varieties of public policy: A study of policy regarding the use of deadly force in Los Angeles County. *University of Loyola at Los Angeles Law Review, 6*(1), 1-65.

United States Department of Justice. (n.d.). *Key findings of the behavioral analysis unit's Las Vegas Review Panel (LVRP).* https://vpc.org/wp-content/uploads/2022/03/Las-Vegas-FBI-final-behavioral-unit-report-2019.pdf

United States Department of Justice. (2015). *Report regarding the criminal investigation into the shooting death of Michael Brown by Ferguson, Missouri police officer Darren Wilson.* https://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/03/04/doj_report_on_shooting_of_michael_brown_1.pdf

United States Federal Bureau of Investigation. (n.d.). *National use-of-force data collection.* Retrieved November 19, 2023, from https://www.fbi.gov/how-we-can-help-you/more-fbi-services-and-information/ucr/use-of-force

United States Government Accountability Office. (2021). *Report to Congressional addressees: DOJ can improve publication of use of force data and oversight of*

excessive force allegations [GAO-22-104456]. https://www.gao.gov/assets/gao-22-104456.pdf

University of Illinois Chicago. (n.d.). *U.S. data on police shootings and violence.* https://policeepi.uic.edu/u-s-data-on-police-shootings-and-violence/

Vollmer, A. (1933). Police progress in the past twenty-five years. *Journal of Criminal Law and Criminology, 24*(1), 161-175.

Wager, G. (2023, August 15). *Warrior ethos needed to obtain objectives*. 445th Airlift Wing. https://www.445aw.afrc.af.mil/News/Article-Display/Article/3493331/warrior-ethos-needed-to-obtain-objectives/

Walker, S. (1993). *Taming the system: The control of discretion in criminal justice, 1950-1990*. Oxford University Press.

Walker, S., & Fridell, L. (1992). Forces of change in police policy: The impact of Tennessee v. Garner. *American Journal of Police, 11*(3), 97-112.

The Washington Post. (n.d.). *Police shootings database 2015-2023.* Retrieved November 9, 2023, from https://www.washingtonpost.com/graphics/investigations/police-shootings-database/

White, M. D. (2001). Controlling police decisions to use deadly force: Reexamining the importance of administrative policy. *Crime & Delinquency, 47*(1), 131-151.

Williams, H., & Murphy, P. V. (1990). The evolving strategy of police: A minority view. *Perspectives on Policing, 13.* https://www.ojp.gov/pdffiles1/nij/121019.pdf

Wilson, O. W., & McLaren, R. C. (1977). *Police administration* (4th ed.). McGraw-Hill.

Winfrey, O. [@Oprah]. (2020, June 3). *You did such a great job moderating. And #8cantwait so succinct and clear message. Well done.* [Tweet]. Twitter. https://twitter.com/Oprah/status/1268339270776840192

APPENDIX A

TO: Davis Shelfer, Yan Zhang

FROM: SHSU IRB

PROJECT TITLE: Examining the impact of police use of force policy characteristics on use of force outcomes

PROTOCOL #: IRB-2024-49

SUBMISSION TYPE: Initial

ACTION: No Human Subjects Research

DECISION DATE: October 25, 2023

Greetings,

In accordance with applicable federal law governing the use of human subjects in research the SHSU Institutional Review Board (“IRB”) has reviewed your proposed project entitled "Examining the impact of police use of force policy characteristics on use of force outcomes" and determined that this project does not meet the definition of human subjects research as defined in Title 45 Code of Federal Regulations Part 46 et al (also known as the “Common Rule”) - specifically, secondary data analysis of a publicly available dataset. Therefore, this project is not subject to further SHSU IRB oversight. Even so, please remember that you are responsible for ensuring that your study is conducted in an ethical manner and in accordance with applicable law and SHSU policies and procedures. You may initiate your project. Please contact the IRB office at irb@shsu.edu or (936)294-4875 if you need any additional information.

Sincerely,

SHSU Institutional Review Board

APPENDIX B

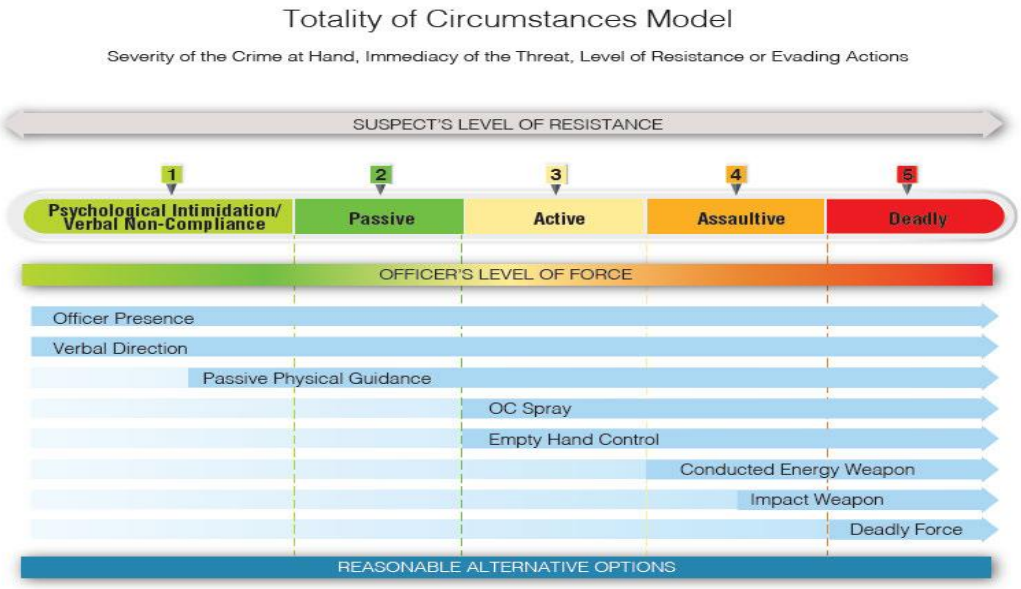
1. Require de-escalation

Example coded 1: Toledo (OH) Police Department, SOP Directive 103.2 (effective April 12, 2021): "DE-ESCALATION - Using skills and techniques (i.e., non-confrontational verbal skills, empathy, active listening, persuasion, command presence, repositioning, warnings, distance, resources, additional time, etc.) to stabilize a person in crisis so as to reduce the intensity of a potentially violent situation and the need to use force. … Whenever possible, de-escalation techniques should be employed to gain voluntary compliance of a subject."

Example coded 0: St. Petersburg (FL) Police Department, GO II-42 (effective October 3, 2016): "De-escalation – Decreasing the use of force or resistance." [No requirement to use de-escalation tactics to calm situations and avoid the need for force].

2. Require use-of-force continuum

Example coded 1: Arlington (TX) Police Department, GO 401 (effective 10/12/2020):



Example coded 0: Spokane (WA) Police Department, GO 301.3 (effective 01/15/2020): "All force used by officers must be objectively reasonable in light of facts and circumstances confronting them. Determining whether force is reasonable under Fourth Amendment requires carefully balancing the nature and quality of the intrusion on an individual's Fourth Amendment interest against the countervailing governmental interests at stake. Reasonable force requires careful attention to the facts and circumstances of each particular case, including the following Graham Factors: 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. Reasonable force is also determined by "the totality of the circumstances," including specific factors that may be appropriate in a particular case, whether or not they are among the three Graham Factors… " [Force options are not explicitly categorized or restricted for use in certain situations].

3. Ban chokeholds and strangleholds

Example coded 1: Minneapolis (MN) Police Department, 5-302 III-K (effective 04/04/2021): "Neck restraints and choke holds are prohibited. Instructors are prohibited from teaching the use of neck restraints or choke holds…"

Example coded 0: Memphis (TN) Police Department, Ch. II § 8 (effective 07/05/2021): "… In other words, an officer may resort to the use of a choke hold only if the officer was involved in a situation where deadly force would be authorized/justified." [Chokeholds are not categorically banned in all situations].

4. Require warning before deadly force

Example coded 1: Roanoke (VA) Police Department, OD #2.1.22.IV.3 (effective 09/07/2021): “Before using deadly force, officers shall, when possible or practicable, verbally identify themselves and issue a warning to the suspect. In the warning, officers will instruct the suspect to cease the action(s) which have caused the officer to consider the use of deadly force.”

Example coded 0: Honolulu (HI) Police Department, Policy 1.04 (effective 04/01/2021): “Deadly force is force used with the intent of causing, or which the actor knows will create a substantial risk of causing, death or serious bodily injury. Deadly force may be used only when an officer reasonably believes that the use of such force is necessary to defend his or her own life or that of another person in immediate danger of death or serious bodily injury. The U.S. Supreme Court has ruled that the use of deadly force is a seizure subject to the "reasonableness" requirement of the Fourth Amendment. Even where an officer has probable cause to arrest a subject, it may be unreasonable to do so using deadly force…” [Policy does not require officers to issue a warning in any circumstance prior to using deadly force].

5. Ban shooting at moving vehicles

Example coded 1: Cincinnati (OH) Police Department, 12.550 (effective 06/22/2017): “Officers shall not discharge their firearms at a moving vehicle or its occupants unless the occupants are using deadly physical force against the officer or another person present, by means other than the vehicle.”

Example coded 0: Boise (ID) Police Department, 1.004 (effective 01/2019): “An officer shall not discharge a firearm at a vehicle or its occupants in response to a threat posed solely by the vehicle, unless both of the following circumstances exist: The officer

has an objectively reasonable belief the suspect poses a continuing threat of death or serious bodily injury to officer(s) or others; and the officer has no reasonable alternative course of action" [Firing at moving vehicles is not strictly prohibited to cases in which deadly force other than the vehicle is being used or the suspect is intentionally using the vehicle in a mass-casualty ramming attack].

6. Requires exhaust all alternatives

Example coded 1: Madison (WI) Police Department, SOP "Deadly Force – Use of" (effective 11/02/2020): "The application of deadly force is a measure of last resort, only to be employed when an officer reasonably believes all other options have been exhausted or would be ineffective."

Example coded 0: Seattle (WA) Police Department, 8.200 (effective 04/15/2021): "Deadly force may only be used in circumstances where a threat of death or serious physical injury to the officer or others is imminent. A danger is imminent when an objectively reasonable officer would believe that: A suspect is acting or threatening to cause death or serious physical injury to the officer or others; and the suspect has the means or instrumentalities to do so; and the suspect has the opportunity and ability to use the means or instrumentalities to cause death or serious physical injury." [Deadly force is not restricted to last resort situations where all alternatives (e.g., less lethal force, de-escalation techniques) are exhausted or infeasible].

7. Duty to intervene

Example coded 1: New Haven (CT) Police Department, GO 6.01.04 (effective 12/14/2021): "Any New Haven police officer acting in a law enforcement capacity who witnesses the use of force by any other New Haven police officer, regardless of rank or

department, that the witnessing officer knows to be unreasonable, must intervene to attempt to stop such use of force… Any New Haven police officer acting in a law enforcement capacity who witnesses or otherwise becomes aware of the use of force by any other New Haven police officer, regardless of rank or department, that the witnessing officer knows to be unreasonable shall notify their immediate supervisor as soon as practicable..."

Example coded 0: Albuquerque (NM) Police Department, PO 2-52-6, A7 (effective 01/11/2020): "Any on-scene officer who observes another officer using force that a reasonable officer would view as excessive or unnecessary under the circumstances shall, when in a position to do so, safely intercede to stop the officer's actions." [No requirement to report excessive force].

8. Require comprehensive reporting

Example coded 1: Houston (TX) Police Department, GO 600-17 (effective 03/04/2022): "Force: Pointing a firearm, conducted energy device (CED), soft-impact weapon, or 40mm launcher at a person, or any physical contact with a person by an officer using the body or any object, device, or weapon, excluding unresisted escorting or handcuffing."

Example coded 0: Santa Ana (CA) Police Department, 300.4.2 (effective 12/10/2020): "Given that individuals might perceive the display of a firearm as a potential application of force, officers should carefully evaluate each tactical situation and use sound discretion when drawing a firearm by considering the following guidelines (Government Code § 7286(b)): (a) If the officer does not initially perceive a threat but reasonably believes that the potential for such threat exists, firearms should generally be

kept in the low-ready or other position not directed toward an individual. (b) If the officer reasonably believes that a threat exists based on the totality of the circumstances presented at the time (e.g., high-risk stop, tactical entry, armed encounter), firearms may be directed toward such imminent threat until the officer no longer perceives such threat. Once it is reasonably safe to do so, officers should carefully secure all firearms." [There is no requirement here or elsewhere in the use-of-force policy to report when a firearm is pointed at a suspect].

Reporting Standards

Example coded 1: Lakeland (FL) GO 16-2 (effective 10/25/2019): "Reportable use of force incidents will constitute the following:

1. When a member discharges a firearm, which does not pertain to authorized firearms training, qualifications or lawful recreational events.
2. When a member takes action that results in (or is alleged to have resulted in) any injury or death of another person.
3. When a member applies lethal or less lethal force.
4. When a member applies physical force defined by this directive at a level that involves pain compliance or hard empty hand control tactic.
5. When a member applies a weapon of opportunity under any circumstance.
6. When a member uses handcuffs to temporarily detain a subject, who is subsequently released without arrest or charges.
7. When a member intentionally points a firearm at a person, in the course of duty, to gain control or compliance from the individual.

8. When a member points a conducted electrical weapon at a person, exhibits an "arc warning" or "paints" the subject with the weapon's laser, in an attempt to gain compliance of the subject where resistance, assault, and/or violence is reasonably anticipated.

9. Any deployment of a police canine as a response option to a use of force action."

[All forms of force, except minimal/guiding force unlikely to cause injury, are reportable. Incidents that only involve shows of force (i.e., 7. and 8.) and handcuffing (i.e., 6) are excluded from the total use-of-force incident count for all agencies which report them. If an agency policy requires reporting shows of force and handcuffing, but the corresponding agency data do not permit disaggregation and exclusion of these events from the agency's total use-of-force incident count, that agency is excluded from the sample].

Example coded 0: Lewisville (TX), 4.1.XII (effective 07/12/2021): "An employee will document the employee's response to resistance as in a manner prescribed by the chief of police whenever the employee:

1. Discharges a firearm outside of the firing range when on duty or in a situation other than a lawful sporting activity or military service while off duty;

2. Takes an action that results in or is alleged to have resulted in any injury to a person other than a Lewisville Police or Detention Officer; alleged injuries due to handcuffing a suspect shall only be documented in the officer's case report – an RTR report related to handcuffing is only required when visible injuries are present (red marks from handcuffing are not considered visible injuries);

3. Applies force using a non-lethal weapon; or

4. Uses a chokehold/stranglehold or carotid artery neck restraint."

[Only force involving weapons and injuries or complaints of injuries are reportable, non-weapon force which does not produce an injury or complaint of injury are not reportable. All other reporting standards are excluded from the current dissertation (e.g., the California state reporting standard to only document uses of force which result in serious injury, death, and/or the discharge of a firearm; Bonta, 2021)].

VITA

Davis G. Shelfer, M.A.

Sam Houston State University – Department of Criminal Justice and Criminology

Education

expected 2024	**Ph.D. Criminal Justice**, Sam Houston State University *Dissertation:* "Examining the impact of police use of force policy characteristics on use of force outcomes" *Committee*: Yan Zhang (chair), Jason R. Ingram, and Willard M. Oliver
2020	**M.A. Criminal Justice and Criminology**, Sam Houston State University
2017	**B.A. Sociology** *with honors*, Auburn University

Areas of Focus

Police Practices, Immigration and Citizenship, Program and Policy Evaluation

Peer-reviewed Publications

Forthcoming	**Shelfer, D.,** & Zhang, Y. A social network analysis of chronic violent offenders. *American Journal of Criminal Justice.*
2023	**Shelfer, D.,** & Zhang, Y. Crimes committed by recent immigrants: Characteristics and community patterns. *Journal of Ethnicity in Criminal Justice, 21*(4), 293-317. https://doi.org/10.1080/15377938.2023.2256248
2023	Ramos, J., Hernandez, C., & **Shelfer, D.** Illuminating the immigration-crime nexus: A test of the immigration revitalization perspective. *Societies, 13*(6), 137-153. https://doi.org/10.3390/soc13060137
2022	**Shelfer, D.,** Gullion, C. L., Guerra, C., Zhang, Y., & Ingram, J. R. A systematic review of Project Safe Neighborhoods effects. *Justice Evaluation Journal, 6*(1), 32-61. https://doi.org/10.1080/24751979.2022.2109190

Grants and Sponsored Research

2019 – 2024	Evaluating Project Safe Neighborhoods in the Southern District of Texas Role: Graduate Research Assistant, Sam Houston State University PI: Dr. Yan Zhang, Dr. William Wells, Dr. Jason Ingram Award: $674,459 Source: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Assistance; Office of the Texas Governor, Criminal Justice Division
2023, 2021, 2019	Graduate Student Travel Fund Source: Internal, Sam Houston State University
2022	Beto Graduate Student International Travel Fund Source: Internal, Sam Houston State University

2019 Dr. Larry T. Hoover Graduate Research Fellowship
Award: $3,336
Source: Internal, Sam Houston State University

Technical Reports

2023 Zhang, Y., Ingram, J. R., Wells, W., **Shelfer, D.,** Nielson, K., & Lomenzo, K. Project Safe Neighborhoods: Reducing violent crime in the Southern District of Texas fiscal year 2023 final report.

2022 Zhang, Y., Ingram, J. R., Wells, W., **Shelfer, D.,** & Gullion, C. L. Project Safe Neighborhoods: Reducing violent crime in the Southern District of Texas fiscal year 2022 final report.

2022 **Shelfer, D.,** & Gullion, C. L. Project Safe Neighborhoods: Focused deterrence strategies for violence reduction. Law Enforcement Management Institute of Texas (LEMIT).

2021 Zhang, Y., Ingram, J. R., Wells, W., Ee, M., **Shelfer, D.,** & Gullion, C. L. Project Safe Neighborhoods: Reducing violent crime in the Southern District of Texas fiscal year 2021 final report.

2020 Zhang, Y., Ingram, J. R., Wells, W., **Shelfer, D.,** Ee, M., & Godwin-Pierce, T. L. Project Safe Neighborhoods: Reducing violent crime in the Southern District of Texas fiscal year 2020 final report.

Conference Presentations

2023 **Shelfer, D.** Examining social contextual influences on U.S. immigration court experiences. [American Society of Criminology meeting, held in Philadelphia, PA].

2023 **Shelfer, D.,** & Zhang, Y. Identifying chronic offenders: A social network analysis. [Academy of Criminal Justice Sciences meeting, held in National Harbor, MD].

2022 **Shelfer, D.,** & Zhang, Y. Immigrants convicted of homicide: Exploring disparate sentencing outcomes. [IV Ogólnopolskie Forum Młodych Kryminologów (4th Young Criminologists Forum), held in Białystok, Poland].

2021 **Shelfer, D.,** Gullion, C. L., Guerra, C., Zhang, Y., & Ingram, J. R. A systematic review of Project Safe Neighborhoods effects. [American Society of Criminology meeting, held in Chicago, IL].

2019 Zhang, Y., & **Shelfer, D.** Crimes committed by immigrants: Characteristics and community patterns. [American Society of Criminology meeting, held in San Francisco, CA].

2017 Tetzlaff-Bemiller, M. J., Weaver, G. S., Scherer, J. A., **Shelfer, D.,** & Huff-Corzine, L. Structural factors associated with line of duty deaths of law enforcement officers. [Homicide Research Working Group meeting, held in Memphis, TN].

Teaching Experience

Spring 2024	Sam Houston State University (online) CRIJ 3378.11 – Introduction to Methods of Research, **Davis Shelfer**
Fall 2023	Sam Houston State University (online) CRIJ 3378.11 – Introduction to Methods of Research, **Davis Shelfer**
Spring 2023	Sam Houston State University (in person) CRIJ 3378.08 – Introduction to Methods of Research, **Davis Shelfer** Facilitated a student honors contract
Fall 2022	Sam Houston State University (in person) CRIJ 3378.01 – Introduction to Methods of Research, **Davis Shelfer**

Awards

2022	Graduate School Scholarship, Sam Houston State University
2022	Rolando, Josefa, and Jocelyn del Carmen Criminal Justice Scholarship, Department of Criminal Justice and Criminology, Sam Houston State University
2021	Certificate of Professional Development, Department of Criminal Justice and Criminology, Sam Houston State University
2017	*Magna Cum Laude* graduate, 4x Dean's List, Auburn University
2014 – 2017	Presidential Scholarship, Auburn University

Service

2022 – 2023	Vice President and Service Committee Chair College of Criminal Justice Graduate Student Organization, Sam Houston State University
2018 – 2022	Service Committee Member College of Criminal Justice Graduate Student Organization, Sam Houston State University
2015 – 2017	Vice President of Events, Student Alumni Association Board of Directors, Auburn University
2014 – 2017	Hospitality Tailgate Volunteer, Auburn Alumni Association
2016	Planning Committee Member, A Walk to End Alzheimer's, Auburn, AL
2015	Sponsors Committee Member, Student Alumni Association Board of Directors, Auburn University

2014	Newsletter Chair, Student Alumni Association Board of Directors, Auburn University
	Ad Hoc Reviewer: *Journal of Criminal Justice Education* *Journal of Family Strengths*

Professional Training

2023	Introduction to Social Network Analysis, Dr. Nathan Jones, Institute for Homeland Security, Center for Intelligence and Crime Analysis (CICA), SHSU
2023	ChatGPT: Get the conversation started. Large Language Model (LLM) forum, Professional and Academic Center for Excellence (PACE), SHSU
2022	Certification for Course Building and Assessment in a Digital Environment, Jacob Spradlin, SHSU Online
2020	Sexual Maltreatment Response Certification, Anna Westbrook, Isabel & The Runaway Train
2018 – 2020	Classroom Management, Blake Tricio, SHSU
2018	IDEA (Student ratings of instruction instrument), Dr. Brian Loft, SHSU
2018	Syllabus Creation, Glenn Stanford, SHSU

Professional Affiliations

Academy of Criminal Justice Sciences
American Society of Criminology
College of Criminal Justice Graduate Student Organization, Sam Houston State University