Discretion in police use of force decision-making: a scoping review.

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Abstract

Police officers have a great deal of discretion in any given police-citizen encounter (Rydberg & Terrill 2010). However, especially in use of force cases, it is a controversial facet of police work. Previously, scholars have pointed out the importance of empirical research on factors that influence police officers' use of force decisions. The present scoping review provides an update of recent empirical studies. The review spans 2006-2023 and analysed 102 articles published in major journals. The findings generally showed a wide range of possible factors influencing police decision-making in use of force cases in interactions with citizens. Understanding police discretion in use of force decisions appears to be complex. Future research should aim to develop an integrative theoretical framework for understanding police use of force encompassing different levels of analysis.

Keywords: police discretion - use of force decisions - scoping review - thematic synthesis method

1. Introduction

The present scoping review considers *police discretion in use of force decision-making*. Police discretion is a legitimate aspect of modern policing (Bronnit & Stenning, 2011; Lipsky, 1980; Walker, 1993). Police officers enforce the law and maintain public order within the constraints of the law and departmental policies. However, decisions in any given police-citizen encounter often involve tensions. On the one hand, police officers have to enforce the law fairly, equally, and impartially. On the other hand, laws are often ambiguous and law enforcement may require interpretation (Hawkins 2002). This may hinder equality in law enforcement. Further, police officers have the legal mandate to use coercive measures to control a suspect's behavior (Bittner 1980; Muir 1977).

In use-of-force decisions, police discretion seems a necessary yet controversial facet of police work (Goldstein, 1960; Nowacki, 2015; Thomas & Fitch, 1997, 1998; Tops, 2007). Police officers often deal with complex and high-risk situations (Davis, 2015), thus making use of force in some circumstances necessary. Consequently, the latter requires good judgment

(Hawkins, 1992) and the ability to quickly make appropriate decisions in often rapidly changing situations. Police discretion often has a negative connotation. Arbitrariness and selectivity in police decision-making are important issues of concern in the justice system (Gilleir, 2013). Consequences of poorly exercised discretion such as deployment of unnecessary force may be dire for civilians but equally for law enforcement officers (Tyler et al., 2007). Police acts of (perceived) arbitrariness in use of force decisions can cause severe damage to their mission of public order maintenance and by extension to citizens' trust in and compliance to the rules of a democratic society (Tyler et al., 2003). As such, making unbiased decisions by police is paramount to the integrity of the legal system (Kleider-Offutt et al., 2016). Although the use of discretion has several advantages and can be functional, the potential downsides in the use of force can be of high impact. This has led to the hypothesis that discretion should be limited to a maximum when concerning the use of force by the police (Noppe, 2020).

Sherman (1980) was the first scholar to extensively catalogue and summarize two decades of quantitative research on factors known to influence police officers' use of violence in the US. This researcher presented his findings in terms of four levels of analysis: individual, situational, organisational and community. His pioneering work has been replicated by Riksheim & Chermak (1993). These authors conducted a comprehensive review of quantitative studies undertaken during the 1980s covering 25 years of research that attempted to explain the same kind of police behaviours and using the same classificatory framework as developed by Sherman (1980). More recently, a detailed content analysis of use of force studies published in peer-reviewed journals between 1995 and 2008 was carried out by Klahm & Tillyer (2010). In their review Klahm & Tillyer summarise the empirical evidence on the most commonly used explanatory factors that influence police officers' use of force decisions during their interactions with suspects. Twenty-three quantitative studies were included in their review. Suspect characteristics, police officer characteristics and characteristics of police-citizen interactions were thoroughly elaborated on. In their conclusion the authors point out the importance of empirical research in order to fully understand the nature and extent of factors related to police use of force: *Only then can training protocols be tailored to its appropriate use and policy formulated to instruct officers when they can and should use force* (Klahm & Tillyer, 2010, p. 231).

The present scoping review provides *an update* of the recent empirical research regarding factors that influence directly or indirectly *police discretion in use of force decision-making*.

The review spans the years 2006-2023 and analyses 104 articles published in major journals. In contrast to previous reviews (see above), we did not limit our search to quantitative empirical research but also included qualitative and mixed-methods studies. The review was initially conducted from October to December 2016 and subsequently updated from September to November 2023.

The structure of this article is as follows. Firstly, we elaborate on the concept of police discretion in use of force decisions. Secondly, the methodology of the scoping review is presented. We discuss the research protocol, search strategy, and subsequent shortlist. We report on the data collection and thematic synthesis method. The general characteristics and methodological information of the 58 publications are briefly considered. Thirdly, the results of the review are reported. Finally, this article concludes with a brief discussion and suggestions for future research.

2. Police discretion in use of force decisions

It is widely accepted that police officers are afforded a great deal of discretion in their daily police-citizen encounters (Rydberg & Terrill, 2010). There is, however, much less consensus among scholars about what the term 'police discretion' exactly entails. A wide range of definitions can be found. For instance, Nowacki (2015) posits that *'discretion exists when officers have the flexibility to choose an appropriate response to a situation'* (p. 646). Garmany (2014) points out *a critical incongruence* (p.1244) that exists between abstract societal laws and the way these laws are enforced. *'What discretion… enables is a method for police officers, acting on behalf of the state, to address a host of scenarios not fully accounted for under the law.'* (Garmany, 2014, p. 1244). A broad definition covering diverse aspects of discretion is given by Gilleir (2012): '*… The room that executives are assigned, or have implicitly and where they can make choices within the legal limits of their office operation.*' (p. 58). The aforementioned definitions seem to tap into a common idea of police discretion as a leeway that police officers enjoy in their decision-making in a wide range of situations while carrying out their work (Mastrofski, 2004).

Terms related to 'use of force' pose definitional challenges, with scholars often treating 'force' and 'coercion' similarly (Terrill, 2014). However, 'use of force' is viewed as a subset of police coercion, making 'coercion' a broader term (Noppe, 2015). Additionally, 'violence' in policing is often seen as the excessive use of physical force, potentially leading to legal consequences

(Fassin, 2013). This review covers both legitimate use of force, justified by legality, proportionality and subsidiarity principles, and police misconduct, encompassing excessive and lethal force.

3. A scoping review using a thematic synthesis method

This review aims to provide an updated overview of empirical research on factors influencing police discretion in use of force decisions, drawing from quantitative, qualitative, and mixed-methods studies. Employing a partial thematic synthesis (Thomas & Harden, 2008), we followed a three-stage approach: line-by-line coding, development of descriptive themes, and generation of analytical themes (Thomas & Harden, 2008). However, we intentionally limited the synthesis to the first two stages, avoiding the creation of analytical themes to remain closely aligned with the primary studies. Our goal is to present a scoping review of existing literature on a specific topic without introducing new concepts or interpretive hypotheses. This choice also reflects the diverse research designs, contexts, and aims found in the thematic synthesis outcomes (Verhage & Boels, 2016). Our focus remains on summarising empirical findings relevant to our research question. The subsequent paragraph outlines the review steps, with Figure 1 illustrating the procedure.

****** INSERT FIGURE 1 ABOUT HERE******

Search strategy

The review includes one research question: *Which factors affect, directly or indirectly, police discretion in use of force decision-making*? The following inclusion criteria were determined: publications had to report on *empirical* research with a clear link to the research question; empirical studies had to be published between 2006 and 2023[1]; publications had to concern the use of *physical force*. The following exclusion criteria were formulated: non-law enforcement actors, legislative analyses, and non-doctoral theses or doctoral dissertations that were not published.

[1] The date of 2006 was initially chosen to review the literature over ten years from 2006 to 2016. For various reasons, the review has been postponed, and as a result, the time frame has been extended from 2006 to 2023.

Subsequently, keywords were formulated. Studies in the English language were searched on the basis of 6 keywords used in 14 databases, journals, and internet sources[2]: Police AND discretion, Street-level bureaucracy AND discretion, Discretion AND regulatory, Decision-making AND police, Police AND discretion AND force, Decision-making AND police AND force. The researchers meticulously recorded information with regard to the date of search, database, key terms, and number of publications found in a Microsoft Excel spreadsheet. The titles were screened on their relevance to the retained research question. The following information was recorded: author(s), title, type, and date of publication. Ultimately, the longlist consisted of 1,651 publications. This longlist contained 10 books and 6 articles that were not accessible. As a result, we could not assess their conformity with the inclusion criteria, which is why they were not included in the shortlist. In 2023 the second author updated the scoping review with literature dating from 2017 to 2023[3]. This resulted in a long list containing 171 publications. This longlist contained 7 articles that were not accessible and therefore couldn't be included in the shortlist.

Selection

As described in Figure 1, the researchers selected the literature for the shortlist based on the proposed inclusion and exclusion criteria. Therefore, the researchers read the abstract. When insufficient, the authors consulted the full text. The researchers reported the reasons for inclusion or exclusion of publications

Ultimately, 149 studies were found that met the inclusion criteria for this review. After the removal of articles that did not turn out to be relevant about the research question, 102 studies remained. Data collected from these 102 studies were summarised using a *thematic synthesis method* (Thomas & Harden, 2008).

Content analysis

A core component of the thematic synthesis method is the identification of significant themes related to our predetermined research question, the listing of relevant data, the summary of the empirical information, and finally the report of the results (Boels & Verhage, 2015; Verhage &

[2] Web of Science, Sociological abstracts, Campbell Library, Google Scholar, International Bibliography of the social sciences (IBSS), Scopus, ISI index to social sciences, CrimDoc, SSRN eLibrary, Policing: a journal of policy and practice, Journal of Police and criminal psychology, The police journal: theory, practice and principles, Police practice & research: an international journal, European Journal of Policing studies.

[3] The authors made sure that coding was consistent through regular meetings and discussions on coding choices.

Boels, 2016). To achieve this goal, the researchers summarized the key theoretical and methodological information contained in the articles (Griffithset al., 2016)[4].

Quantitative research findings were summarised by transforming the numeric research data into qualitative findings (Frantzen & Fetters, 2015). As such, the statistical data from the quantitative and mixed-methods studies were not synthesized; instead, we only coded textual explanations by utilizing relevant descriptive conclusions. We did not code line-by-line but only coded those text fragments that contributed to answering our research question. In essence, these were found in the results and discussion/conclusions sections of the studies, and we used this approach to integrate findings for all qualitative, quantitative, and multiple-methods publications.

General characteristics of the publications.

All articles but one were found in 58 different journals[5]. We retrieved one paper presented at the *24th Annual International Association of Conflict Management Conference in Istanbul (Turkey)*. Twenty (20) studies were qualitative analyses, seventy-six (76) used a quantitative design and seven (6) studies employed a multi-method research approach including both quantitative and qualitative methods of data collection. As for the participants in the study samples, the majority of the research samples consisted of police officers, law enforcement agents or uniformed patrol officers/sergeants/inspectors, and police recruits. Six studies used a combined sample of police officers and students, recruits, academics, or community members. Twelve studies used secondary data classified as administrative data files such as police data files or open source data files.

We observed that scientific empirical research analyzing police use of force decisions is widespread. An overwhelming majority of the recent scholarship comes from North American contexts with 54 publications from the US and 6 from Canada. In 2 publications, empirical data came from participants in both the US and Jamaica. Furthermore, studies were conducted in Europe (26), Brazil (3), Asia (2), Australia (8), Trinidad (1), and Turkey (1).

[4] See supplementary materials.
[5] For a full alphabetical list of the journals: see supplementary materials.

4. *Results*

In this section, we summarise the findings of the thematic synthesis using a template to categorize predictors of police discretion in use of force decisions, visualized in Figure 2. Factors are organized by individual officer characteristics, system/organizational aspects, situational factors, suspect/citizen features, and community-level characteristics, following the procedure of previous reviews. Before delving into the synthesis, we briefly discuss the outcome variables in the next paragraph, examining how each study contributes to our understanding of the topic.

****** INSERT FIGURE 2 ABOUT HERE******

Outcome variables

Reviewed studies cover a broad spectrum of outcome variables linked to police use of force discretion. Notable areas include the quality of officers' use of force decision-making (Cano, 2010; Davies, 2015; Hendy, 2014; Krishan et al., 2014; Phillips, 2015; Pizio, 2014; Rydberg & Terrill, 2010; Sinyangwe, 2016) and use of force during stressful encounters (Andersen & Gustafsberg, 2016; Brown & Daus, 2015b; Dunham & Alpert, 2009; Girodo, 2007; Kerr et al., 2010; Lee & Vaughn, 2010; McTackett & Thomas, 2016; Nowacki, 2015; Parent, 2011; Rabe-Hemp, 2008; Thomasson, 2014; Worley & Worley, 2011). Other studies analyze decisions to shoot/not to shoot in simulated tasks from social and experimental psychological perspectives, involving police officers, citizens/students, or combined samples (Akinola & Mendes, 2011, 2012; Correll et al., 2007, 2011; Cox et al., 2014; Hudson et al., 2014; James, 2014; James et al., 2013; Luini & Marucci, 2015; Ma & Correll, 2011; Nieuwenhuys et al., 2012, 2014; Park & Kim, 2015).

Additional studies delve into aggressivity among police officers (Queiros et al., 2013) and police officer recruits (Koepfler et al., 2012), as well as police performance in high-stress situations and assessment of operational policing tasks (Burke et al., 2007; Flin et al., 2007; Regehr et al., 2008). Some explore rule adherence behavior under conditions of high discretion and low surveillance, focusing on democratic, community-based policing (Tasdoven & Kapucu, 2013; Trinkner et al., 2016; Tyler et al., 2007). Specific studies investigate police use

of force in 'hotspot communities' (Watson, 2015), officers' views on suspects' rights amid police misconduct (Rogers et al., 2015), determinants of sexual violence by security forces (Butler et al., 2007), violence in police-civilian encounters (Garmany, 2014), and police perceptions during public order events (Cronin & Reicher, 2006; Garbarino et al., 2012; Gorringe et al., 2012; Havelund et al., 2015). Finally, a set of studies explores self-reported use of force decisions and prior engagement in police misconduct by officers (Brown & Daus, 2015; Chapman, 2012; Donner et al., 2016; Noppe, 2016; Skogan, 2013).

a. *Individual officers' characteristics*

Gender, officer ethnicity

Findings on the relationship between gender and use of force decisions are mixed. Rabe-Hemp (2008) found a main effect of *officer gender*: female officers were over 27% less likely than male officers to exhibit extreme controlling behaviours, such as physical restraint, and force threats. These results are corroborated by several other studies (Feys et al., 2022; Kim et al., 2021; Phillips & Kim, 2021; Skogan, 2013). However, both female and male officers were found to behave similarly in utilizing lower-level controlling behaviors, such as giving commands or advice. However, Hine et al. (2018a, 2018b) found no significant relationship between officer gender and the use of force.

Similarly, findings on the relationship between officer ethnicity and use of force decisions are mixed. A study by Headley and Wright (2020) stated that white officers are more likely to use force than officers of color. Other studies state the contrary (Kim et al., 2021; Phillips & Kim, 2021). However, Cox et al. (2014) found that the interplay between officer ethnicity and neighborhood characteristics had a greater impact on officers' shooting mistakes than suspect race in a computer shooting task. This interaction effect was confirmed by Hoekstra and Sloan (2022). Hine et al. (2018a, 2018b) found no significant relationship between these factors.

Education - training – practice

Several researchers have documented the importance of *education and training* in the officer's decision to use force (Chapman, 2012; Davies, 2017; Henriksen & Kruke, 2020; Skogan, 2013; Tawa, 2023). Across the whole police sample (including patrol officers, detectives, and others), younger officers are more likely to use force. However, controlling for age, experienced officers are more likely to use more force (e.g. Phillips & Kim, 2021; Rockwell et al., 2021; Skogan,

2013). The hypothesis that better-educated officers would report using less force was corroborated for patrol officers only. Rydberg & Terrill (2010) found that officers with a higher *college education* were significantly less likely to use force in an encounter relative to non-college-educated fellow workers. In a simulated shooting experiment, Nieuwenhuys et al. (2014) were unable to show the positive effects of *practice* on improved judgment or police shooting decision-making under stressful circumstances (i.e. when confronted with an armed suspect). Thomasson et al. (2014) investigated the impact of high-stress simulated shooting experiments on law enforcement officers' performance. The study revealed that dynamic interactions with situational variables, including potentially dangerous targets and officer colleagues, increased psychological stress. Introducing more stressors in training resembling real force-on-force situations, such as high unpredictability and the need for quick action, resulted in decreased police officers' performance.

Andersen & Gustafsberg (2016) found that training influences officers' appropriate use of force decisions in threatening situations. The study identified foundational skills, such as situational awareness, maintaining optimal sensory awareness with moderate arousal during critical incidents, and knowledge of weapons and tactical manoeuvres, crucial for enhancing officers' use of force decision-making. In essence, training fosters a greater sense of control in specific situations, resulting in more appropriate use of force decisions (Mangels et al., 2020; Ta et al., 2021).

Experience can shape officers' use of force habits, relying on proven past strategies (Henriksen & Kruke, 2020). It may also foster a more cautious approach, heightening awareness of potential negative consequences (Noppe, 2020). Connely et al. (2023) highlight the challenge of clearly defining the relationship between the use of force and experience, attributing it to the difficulty in measuring the concept of experience.

Emotions

Brown & Daus (2015a) observed a negative relationship between *anticipated regret* and the tendency to avoid action, meaning that officers with an avoidant decision-making style were more willing to shoot and experienced more anticipated regret. Using the same study sample, Brown & Daus (2015b) explored the combined impact of officers' decision-making style (intuitive or rational/deliberate) and anger management on job-related decisions. Findings indicated that lower levels of intuitive decision-making, coupled with high anger control,

reduced the likelihood of shooting a suspect, underscoring anger control as a buffering factor in shooting decisions.

Dimensions of burn-out were found to be strong predictors of *the personality trait 'aggressivity'* which is of particular concern due to the possibility of excessive use of force during police work (Queiros et al., 2013; Staller et al., 2018a; Staller et al., 2018b). Nieuwenhuys et al. (2012, 2015) examined the effect of *anxiety* and found that anxiety, caused by the apprehension of being hit with plastic bullets in the scenario, negatively influenced shooting responses. Anxiety caused officers to respond faster in a high-anxiety condition, leading to quicker shooting responses and shorter gaze fixations on the suspect, thereby decreasing shooting accuracy. The impact of *emotions* on rapid decision-making while under stress and in risky arousing conditions was investigated in a First Person Shooting Task (FPST) comparing two study samples (Luini & Maricci, 2015). Police officers were more efficient in detecting armed targets under uncertainty), were better able to control the effect of arousing stimuli, negative affect states, and stereotypic associations, and showed a more controlled performance than civilians.

Cognitive skills

Psychological research is particularly concerned with the need to perform adequately under stressful or high-threat circumstances and to make rapid assessments of potentially dangerous situations to take appropriate action. This line of inquiry examines the relationship between police officers' personality traits, reasoning processes, and neuro-psychological factors in shoot/no shoot decisions in practical exercises. Variables identified are cognitive organisation of competences, reasoning processes (Girodo, 2007), basic reaction and movement time performances (Hudson et al., 2014), assessment of new situations (Flin et al., 2007), behavioural control and trait aggression (Biggs & Pettijohn, 2021; Koepfler et al., 2012), intelligence and prior knowledge (Boyd et al., 2023), and anger control (Biggs & Pettijohn, 2021; Brown & Daus, 2015b). These studies reveal that law enforcement training may need to include more complex training experiences to provide officers with cognitive skills necessary for decision-making in critical situations and subsequent performance (Hudson et al., 2014).

Donner et al. (2016) found that *levels of self-control* are an important and significant predictor of self-reported police misconduct (i.e. behaviour contrary to law, policy or ethical codes of conduct). Police supervisors reporting higher levels of self-control were less likely to misbehave whilst on the job.

Stress-levels – cortisol levels

The effects of (acute) stressors on police performance (Regehr et al., 2008) and on police officers' decision to fire weapons (Akinola & Mendes 2011) were examined using simulation experiments. Regehr et al. (2008) found no evidence that both psychological and physiological manifestations of stress would negatively influence specific performance actions including officers' use of force. On the contrary, the notion that cortisol can enhance action ability in high-stress situations was supported. In contrast, Akinola & Mendes (2011) found that under stress, police officers made more shooting errors compared to no-stress conditions. Results of several other studies also show that stress negatively influences police use of force decision-making because of the several cognitive, perceptual and physiological impairments it causes (Andersen et al., 2018; Baldwin et al., 2022; Biggs et al., 2021; Henriksen & Kruke, 2020; Hine et al., 2018b; Verhage et al., 2018).

In another study, Akinola & Mendes (2012) found a negative relationship between increased *cortisol reactivity* in male police officers and shooting errors, but only when responding to armed Black targets. Results indicated that with higher levels of stress-induced cortisol, police officers' attention to threat cues was enhanced. Police officers showed fewer errors when deciding to shoot armed Black targets compared to armed White targets. Higher cortisol levels had no influence on police officers' ability to discriminate armed White from unarmed White targets. The authors concluded that increases in cortisol responsiveness may enhance vigilance to threat cues. The study by Chan et al. (2022) on the other hand found no significant relationship between reactive cortisol and the decision to use force.

Attitudes/values/perceptions

Self-reported *officers' attitudes* were also found to be important predictors (Skogan, 2013). Officers who were satisfied with their careers, who supported a reform program and community policing, those who scored high on a personal professionalism index (based on participation, assessments of training, skills in using equipment) reported less frequent use of force. In addition officers who believed that crime fighting and public security issues were the most important topic on the national agenda were more likely to report use of force. Overall, officers' perceived risk in their working areas, especially the risks they personally faced, most strongly predicted the frequency of self-reported use of force. Being armed in itself may increase the officer's confidence, leading to a change in the perception of threats and risks (Dymond, 2018,

2020). The importance of threat perception in use of force behaviour is confirmed by Bigss et al. (2022). Reports of improvements in training, equipment and management predicted less favourable attitudes towards use of force.

In an exploratory study *police recruits' view of unnecessary use of force* prior to formal training and socialisation to police work plus the likelihood of reporting such behaviour are examined in a survey based on scenario vignettes (Phillips, 2015). Unnecessary physical force was reported as unacceptable, while verbal force was found to be acceptable. On the other hand, police recruits reported use-of-unnecessary force as acceptable when a suspect was an auto thief or fled from the officer. 'Slapping' a suspect was found unacceptable by older recruits and those with more education. Recruits believed they would be unlikely to report the use of unnecessary force to a supervisor except in cases of serious physical force . McCarthy et al. (2023) stress the importance of an officer's policing orientation, as this influences the view towards use of force. A positive attitude towards use of force occurred less amongst female officers (McCarthy et al., 2023).

Police officers' preconceived views of citizens (in terms of football supporters) as 'risk', the use of simple binary distinctions (us/the others), officers' reluctance to engaging in a dialogue-based approach to football supporters were identified as factors leading to police-citizen clashes and police aggression (Havelund et al., 2015).

Finally, Noppe (2016) tested to what extent personal moral beliefs affect police self-reported use of force. It was found that police officers' moral support for the use of force is an important predictor of self-reported use of force controlling for other confounders such as personality traits, participants' attitudes towards the use of social skills, self-legitimacy and perceived audience legitimacy. Police officers were inclined to use force when their moral beliefs endorsed its use. Additionally, officers were more likely to hold supportive moral norms for the use of force when perceiving low trust or respect from citizens. Self-legitimacy had a small negative impact on self-reported use of force, with officers confident in their authority showing a tendency to use force as a last resort.

Personality

This links strongly to personality. Some officers are less comfortable with the use of force or just have a more patient personality than others, and this causes them to have slightly different thresholds of when to use force than, for example, an officer with a macho-type personality.

This is often related to the experience or education the officer has had (Noppe, 2020; Noppe & Verhage, 2017).

Accountability concerns

The qualitative analysis of decisions made by senior police officers during a simulation exercise of an escalating public order conflict showed that officers are deeply concerned about their *accountability* to audiences internal and external to the police force (Cronin & Reicher, 2006). Participants made clear that decisions must be made with an eye on *blame management,* i.e. the need to show the public that the police are not responsible for initiating violence. Officers also discussed the *acceptable damage* or the level of crowd violence they were prepared to endure to act legitimately in the eyes of the public. External accountability concerns may delay the use of repressive tactics, while internal accountability concerns might pressure police commanders to improve such tactics to avoid police injuries. Participants were constantly aware of how their judgment and actions would be judged by others and how these judgments would have an impact on their future careers.

b. *Organisational/system variables*

Organizational values – operational tactics

Two studies invoke strategic and tactical concerns that have an impact on the way police perceive and treat crowds during public order policing, their subsequent collective judgments and decisions. Data showed that, among other factors, the main contributors to the disproportionate policing of crowd events with a negative impact on the police's proportional approach to maintaining law and order were the way strategic and validated intelligence information was used and provided to frontline officers, along with a reluctance to engage in dialogue-based behaviour towards citizens (Cronin & Reicher, 2006; Havelund et al., 2015). Another study found that communication and proactive policing were vital in order to avoid unnecessary police use of force when policing a public order event (Gorringe et al., 2012). The deployment of Protest Liaison Teams was a key predictor in maintaining the legitimacy and proportionality of police actions during protest events.

Both appropriate planning and tactical deployment of riot control countermeasures were found to induce lower stress-levels and, as a consequence, indirectly improve police officers'

performance when responding to major public events requiring an appropriate police use of force (Garbarino et al., 2012).

Organisational culture

Two studies explored how organisational structures influence police officers in adhering to *organisational rules and policies* amidst concerns of police misconduct and shootings (Trinkner et al., 2016; Tyler et al., 2007). A *supportive and procedurally fair organisational climate* might influence attitudes, behaviour of police officers including less coercive tactics and use of force. Study results showed that officers who believed they were treated in a fair manner by the organisation (respectful treatment, neutral and just decision-making) were more likely to report more trust and feel obligated to obey their supervisors, less likely to be emotionally distressed and less likely to be cynical or mistrustful in particular about the communities they police (Trinkner et al., 2016). A fair organisational climate and the moral congruence of those rules with an officer's own values were likely to intrinsically motivate alignment with corporate rules and policies. This taps into the literature on organisational justice within police organisations that is seen as a crucial element in preventing excesses on several levels, among which the use of force in terms of police misconduct (Fridell et al, 2020).

The working environment also has an important influence on the officer's perception of use of force through *socialisation* mechanisms. The other officers often set a standard on what is acceptable and what not regarding the use of force. It also indicates whether or not the officer will be supported by his colleagues or superiors in certain decisions to use force (Davies, 2017; Noppe, 2020).

Organisational structure

System-level characteristics, such as excessive work hours and graveyard shifts imposed by police agencies, indirectly affect police behavior by imposing burdens on adequate rest, resulting in dangerous levels of fatigue (Senjo, 2011). This fatigue, caused by departmental demands, can compromise officers' ability to accurately assess perilous situations, impair decision-making, and elevate the likelihood of inappropriate responses in a given context.

According to Pickering and Klinger (2023), the *position* the officer has within the organization influences the consideration to use force. Moreover, the officers are sometimes assigned *specific roles* during intervention, deciding who should use force and who should not.

Through an inductive case-by-case analysis of 86 civil liability Federal Court cases on police deadly force for firearm use, Lee & Vaughn (2010) identified *dysfunctional departments showing a breakdown of administration and managerial failure* to control and to train police shooting behavior as an important cause of civil liability. The qualitative analyses showed that failure to communicate, fostering a code of silence, and unwritten policies regarding the use of force can predict police liability regarding excessive use of force.

Use of force policies

Several studies explore the impact of the use of force administrative policies on police behavior. Restrictive lethal force policies, with clear guidelines, limit officer discretion and correlate with fewer lethal force incidents (Nowacki, 2015). Larger departments, with less supervision, are suggested to afford more discretion, providing officers flexibility in lethal force situations. Sinyangwe (2016) notes wide variations in the use of force policy restrictions and police-involved killings across departments. Eight restrictive policies, including comprehensive reporting, exhausting other means before shooting, and banning chokeholds, are associated with lower rates of police-involved killings, resulting in a 72% reduction with all eight policies in place. Worley & Worley (2011) highlight the legal consequences of faulty policies in 15 court cases involving Taser and gun use. Militarization increases lethal force incidents (Lawson, 2019), while body-worn cameras show no significant effect on lethal force (Koslicki et al., 2023).

c. *Situational/contextual characteristics*

Escalation in the process of the interaction/changes in demeanor

Cronin & Reicher (2006) examined how police perceptions and decisions might alter in the course of an escalating conflict during a policing crowd event. The data showed evidence when police and members of the crowd began to interact confrontationally, this critically had an impact on police responses. Dunham & Alpert (2009) socially observed the sequence of actions and reactions during discretionary police-citizen encounters. Their data revealed that demeanour of both officer and suspect were reactive to each other's behaviour and changed throughout the interaction process in a substantial number of cases (14%, n=14).

In other words, the more aggressive the civilian, the higher the chance the officer will use force (Boyd et al., 2023; Feys et al., 2022; Henriksen & Kruke, 2020; Hine et al., 2019; Noppe &

Verhage, 2017; Porter, 2023). Hine et al. add that police officers also consider the capability of the civilian to cause harm or the likelihood that he will cause harm to a person (Hine et al., 2019). This assessment includes whether the citizen is armed or not and the kind of weapon they are carrying (Boyd et al., 2023; Davies, 2017; Dymond, 2020; Kim et al., 2021). Connely et al. (2023) state that the presence of a weapon does not particularly influence the use of force by the officer, but the threatening behaviour of the civilian does. The *proximity* of the suspect to the police officer is also a predictor of use of force, as a suspect getting close to the officer is an indication of dangerous behaviour leading to the need to use force (Henriksen & Kruke, 2020; Hine et al., 2019; Porter, 2023). In the experiment conducted by Biggs et al. (2023) speeded conditions led to more mistakes in use of force towards non-threatening stimuli. Henriksen & Kruke (2020) confirm that *time pressure* is an important variable in use of force decision-making.

Pizio's study (2014) gives insight into the impact of police officers' experiences (self-reported) with *disrespect or lack of deference from citizens* within the larger context of police decision-making, use/abuse of discretion and occurrences of alleged police misconduct and use of force. Citizens' disrespect was reported to be anticipated and experienced in potentially dangerous encounters such as in nearly all domestics, drug offences and drunk/disorderly encounters. In summary, participants' responses revealed that officers deemed a whole range of citizens' behaviour as disrespectful such as affronts, verbal antagonism, curses, ignored commands, spitting and assaulting). These behaviours may occur prior to the face-to-face interaction or during the encounter itself.

Biased media footage of police-citizen interactions can negatively influence public sentiments about policing by failing to depict a contextually complete situational balance of the interactions. By portraying police officers as abusive of their legitimised power, an atmosphere of conflict is created, compromising the effectiveness of policing (Watson, 2015).

The presence of others

A lower level of risk is perceived when more officers are present on the scene, thereby reducing the perceived need for the use of force (Hine et al., 2019). Officers may believe that using force is necessary to preserve the safety of bystanders, including civilians or other officers (Davies, 2017; Pickering & Klinger, 2023). Additionally, officers' choices regarding the use of force often depend on the decisions of their partners or the team they are working with. Out-of-scale

use of force behaviour is more likely to be supported when officers work in varying teams than in fixed teams (Noppe & Verhage, 2017).

Dispatch information

The results of an experiment conducted by Taylor (2019) indicate that when officers are informed through dispatch information beforehand that the suspect is holding a gun, they make mistakes in use-of-force decision-making twice as often as the control group. In Norway, this factor even determines whether police officers take any weapons with them during the intervention (Henriksen & Kruke, 2020).

Location Characteristics

The number of people present at a certain location or the openness of that place may also influence the possibility or need to use force (Davies, 2017; Hine et al., 2019). For example, a large number of people present at a location increases the sense of urgency and need to use force, as they could become involved and assault the police. Furthermore, some public spaces heighten the visibility of use-of-force actions, making police officers more aware of accountability and possible consequences (Hine et al., 2019).

d. Civilian characteristics

Suspect's psychological state

Intoxicated civilians are perceived as high risk, necessitating the use of force more quickly (Boyd et al., 2023; Dymond, 2018, 2020; Hine et al., 2019; Noppe & Verhage, 2017). Intoxication is also a factor considered in the decision regarding the type of force to be used (Hine et al., 2019; Noppe & Verhage, 2017).

Four studies investigate use of force in police interactions with individuals with mental illness. Mental illness is presumed to potentially escalate a hostile demeanour or the perception of resistance (Kerr et al., 2010). As first responders lacking specialised knowledge, police officers

must manage potentially dangerous encounters to ensure the safety of both themselves and the individuals involved (Krishan et al., 2014). Kerr et al. (2010) identified suspect physical resistance as the sole significant predictor of injuries in police encounters with individuals with mental illness. The study also found that use of force directly influenced the subject's resistance level, with higher resistance predicting an increased likelihood of physical harm. However, a subject's impairment did not seem to impact the use of force (Kerr et al., 2010).

In their study, McTackett & Thomas (2016) found that, overall, police use of force during encounters with individuals displaying irrational or unstable behaviour was generally proportional to offender resistance. The relationship between irrational/unstable behaviour and force severity was mediated by gender, alcohol intoxication, and prior criminal histories. Offenders with such behaviour were more likely to be perceived as having a mental disorder and a mental health record. The study suggests confusion between irrational/unstable behaviour and signs of intoxication. Additionally, police used more force on males displaying suicidal/self-harming behaviors but less on females, aligning with a general trend of higher force use on males (Dymond, 2020; Hine et al., 2019; Kim et al., 2021).

In eight documented incidents of police use of deadly force in cases of frontline officers dealing with 'vulnerable' individuals suffering from a mental illness or suicidal ideation (n=15), Parent (2011) found that officers felt threatened by the assailants who were physically violent escalating to the point where the officer feared great bodily harm. Other situational factors associated with the fatal police shootings were identified such as deceased having committed a criminal offence or involved in violent or assaultive dispute just prior to police intervention, motor vehicle used as a weapon or to facilitate escape of the deceased.

Suspect ethnicity

The role of race/ethnicity underlying race biases is carefully explored by social psychologists. These studies, examining individual ethical judgments with focus on racial disparities in officers' discretion and spontaneous racial bias in police behaviour aim to understand responses to threat perceptions affecting cognitive control in decisions to shoot and to provide an explanation for the disproportionate number of ethnic and racial minorities shot by police (James et al., 2014).

Racial bias refers to the phenomenon where individuals, under comparable circumstances and possessing the same personal characteristics, are treated differently due to their ethnicity or race (Cano, 2010). Concerns about racial biases in police officers' shooting decisions arose after highly publicized cases of Black men being shot by White police officers, particularly in the US. Subsequently, numerous researchers have initiated investigations into these encounters (Barton et al., 1998).

Evidence of a distinct racial disparity in the use of force by Brazilian police officers emerged from a study utilizing jury tribunal cases of intentional homicide (Cano, 2010). In Rio de Janeiro, persons of color are three times more likely to be wounded or killed by the police, considering their proportion in the population, as opposed to Whites. This hypothesis of racial bias held in the study, even when accounting for factors such as the racial composition of the area and other competing hypotheses (e.g., the fact that Black people often reside in favelas where victims more frequently succumb).

Correll et al. (2007) examined the impact of suspect ethnicity on shooting decisions of three samples of participants: patrol officers, civilians, and students. All participants showed similar levels of robust racial bias in terms of the speed with which they made shooting decisions. Responses to targets congruent with cultural stereotypes meaning armed Black targets and unarmed White targets required less time to respond than responses to targets incongruent with stereotypes (i.e. unarmed Black targets and armed White targets). This is corroborated by Tawa (2023). Akinola & Mendes (2011) observed in their study a significant interaction effect between target race (White/Black) and target object (armed/not armed) in police officers' shooting decisions. Participants were more likely to *not* shoot an armed White target than when the target was a Black person, and less likely to make shooting errors when a Black target was armed compared to a White armed target. However, when the target was unarmed, no difference was observed in mistakenly shooting a White or Black target (Akinola & Mendes, 2012).

Correll et al. (2011) discovered a moderating effect of a dangerous context on racial shooting decisions. The study provided evidence that racial bias was apparent in safe contexts, where participants tended to shoot Black targets more frequently than Whites. However, this bias was diminished in a dangerous context, indicating that participants exhibited an increased willingness to shoot otherwise non-threatening White targets when presented in a threatening environment. It's important to note that the participants in this study were non-Black undergraduate students.

Ma & Correll (2011) identified an interaction effect between racial bias and target prototypicality (referring to how stereotypic a target's physical features are) in shooting decisions. The study revealed that for highly prototypic targets (e.g., armed Blacks and unarmed Whites), racial bias was highly significant. Participants tended to hesitate more to shoot armed Whites compared to armed Blacks. Conversely, when targets were rated as non-prototypic (i.e., unarmed Blacks and armed Whites), the pattern of bias reversed, with participants mistakenly shooting unarmed Whites more than unarmed Black targets.

The examination of racial bias in shooting decisions extended to a South-Asian context in a study where undergraduate South-Korean university students played the role of American police officers in a behavioural shooting task (Park & Kim, 2015). The data indicated that priming social categories in a shooting task could lead to differences in spontaneous racial bias. Non-police participants exhibited discriminatory behavioural tendencies against Black targets while assuming the role of a White police officer. Conversely, this behavioural racial bias diminished for those in the Black officer condition, who were overall slower in shooting an armed/unarmed Black target. Other factors influencing racial bias in the decision to shoot include dispatch information and whether civilians move in groups or not (Cooley et al., 2020; Johnson et al., 2018). According to Kramer et al. (2020), racial bias isn't influenced by observation.

Research on suspect race/ethnicity is complex and has produced mixed results (Plesac et al., 2018; Rotello et al., 2018). Evidence of racial and ethnic bias in deadly force decision-making was also found but in the *opposite* direction (James et al., 2013). Participants across three samples (civilians, police and military participants) were significantly slower to shoot Black suspects than Whites or Hispanics and displayed significant bias favouring Black targets in their shooting decisions rather than discriminating against them. Cox et al. (2014) found no evidence for officers displaying racial bias in their shooting decisions specifically the tendency to mistakenly shooting unarmed Black suspects more than unarmed white suspects but these authors did find an interaction effect of neighbourhood characteristics (resp. predominantly Black or White, lower/higher socioeconomic status, high crime/low crime) and officer race on shooting mistakes. Officers were more likely to mistakenly *not* shoot armed suspects regardless of the suspect's race when the officers were in other-race neighborhoods. In the study of Kahn and Davies (2017), racial bias in shooting decisions towards Blacks was present when the

officers were in a neighborhood perceived as threatening and when the suspect wore threatening clothing.

James et al. (2014) discovered evidence of a 'behavioral counter-bias' in deadly force decision-making. Black suspects triggered a stronger threat response among participants across all levels of difficulty in weapons-involved scenarios. However, this threat bias caused participants to delay their shooting decisions, indicating a tendency to take more time when deciding to shoot individuals perceived as more threatening due to race or ethnicity. Nevertheless, the authors caution that the results of this non-police sample may not be generalizable to expert or trained police officers. Other studies found no significant relationship between citizen race and the decision to shoot (Andersen et al., 2023; Phillips & Kim, 2021; Worral et al., 2018).

e. Community-level variables

This approach assumes characteristics at the community level of analysis as the exploratory factors. Four empirical studies were found to examine such variables influencing police use of force decisions. Butler et al. (2007) found preliminary support for their theoretical argument that women are less vulnerable to sexual violence during armed conflict committed by government security forces and police in countries where public officials in security forces are more held accountable for their actions, are subject to tighter control and monitoring and have a lesser degree of discretion to pursue hidden action. Lower levels of overall *financial corruption*, higher levels of *economic development* (as an indicator of public sector wages) and high levels of *democracy* were found to place higher constraints on government agents and lower the prevalence of sexual violence. Based on a qualitative case study of interactions between police and community members in a Brazilian favela, Garmany (2014) observed that police aggression, violence, and abuse toward lower, working-class citizens are partially enabled by 'discretion' and *'state-society' divisions.* As state actors, police officers are endowed with discretionary power that becomes an indicator of power and privilege in order to construct their identities as legitimate state actors. In a low-income urban settlement police violence and abuse toward local citizens occurred as officers struggled to uphold the discretion and distance that defined their role as state actors. McCarty et al. (2023) found significant reductions in low and intermediate levels of force used by the police during the pandemic.

The influence of *neighborhood characteristics* (predominantly White/non-White population, high/low crime, higher/lower socio-economic status) on officers' shooting mistakes was

examined, among the influence of suspect race and officer race, in a computer shooting task (Cox et al., 2014). The data suggested that the interaction of neighborhood characteristics and officer race influences shooting mistakes more than suspect race. Officers were more likely to mistakenly not shoot armed suspects when they were in an other-race neighborhood irrespective of suspect race. It should be noted that this research did not endorse evidence of officers displaying racial bias in their shooting decisions. Other important neighborhood characteristics are the neighborhood crime rates and income (Carroll, 2022; Kim et al., 2021). Hine et al. (2018) found a significant relationship between policing districts and the use of relative force.

In another study, Krishan et al. (2014) found no relationship between indicators of *neighborhood characteristics* (neighborhood income index, stability, immigration status), and the level of use of force in police encounters with persons exhibiting symptoms of mental illness, addictive disorders, or developmental disabilities.

5. Conclusions

This scoping review summarises the findings of quantitative and qualitative research on police use of force decision-making. The findings are organized following the classificatory framework developed by Sherman (1980). We examined the empirical research in terms of four levels of analysis: individual officer and citizen, situational or contextual, and organizational and community-level explanations.

The findings generally showed a plethora of possible factors influencing police decisions in use-of-force cases in interactions with citizens. Few characteristics were found to be single strong predictors of the use of force. This finding is consistent with previous reviews. In their discussion, Klahm & Tillyer (2010) concluded that *'it appears that few suspect and encounter characteristics are highly influential in determining the use of force by police'.* (p. 227). Although the authors explicitly caution for the relative inconsistency of different variables because of mixed findings in several studies, the general trend was found that male suspects, those showing signs of intoxication, and those who resisted or were being arrested during the police encounter were much more likely to experience police force.

Understanding police discretion in use-of-force decisions appears to be complex. In addition to multivariate analysis of direct effects, researchers have estimated interaction terms and compared effects across different types of departments. For example, Rabe-Hemp (2008) tested moderating variables and found interaction effects on the use of force between gender and

supervisory interference and between gender and community assignment (i.e. community policing versus patrol assignment). Female officers were more likely to engage in extreme controlling behaviors when they had interaction with their supervisors. Furthermore, community policing officers (who were more likely to be female officers in this study) were found to engage in fewer extreme controlling behaviors than patrol officers. These authors defined being a community policing officer as being assigned to a police problem-solving mandate. The need for using more elaborate interaction terms is evident given the complexity of determining determinants of police use of force.

The present study has some important limitations that need to be taken into account. Firstly, this review should not be treated as a comprehensive overview due to the limitations imposed by the aforementioned inclusion criteria. Secondly, we did not synthesize the statistical data from the quantitative and mixed-methods studies; instead, we utilized descriptive conclusions relevant to our research question. In essence, these were found in the results and discussion/conclusions sections of the studies. We used this approach to integrate findings for all qualitative, quantitative, and multiple-methods publications. As such, we were not able to measure the overall effect size of relevant characteristics. A third shortcoming concerns the wide range of mixed findings across studies that raise questions about how the research results should be interpreted. The disparate findings could be because we found little consistency in the operationalization and measurement of the use of force (see also Klahm & Tillyer, 2010). The question arises as to whether the same behavior is explained. Future research needs to address this deficiency so that studies explain the same phenomenon. Fourthly, we noted that the organizational and community-level analysis received the least amount of empirical attention. This finding is consistent with previous reviews (Sherman, 1980; Riksheim & Chermak, 1993). However, organizational factors are the most consistent predictors of police behavior. Furthermore, these factors are those over which police departments have direct control (Riksheim & Chermak, 1993). Future research should continue to give more due attention to factors intrinsic to police agencies and ascertain to what extent these variables may or may not effectively eliminate or at least mitigate negative individual effects on police decisions to use force. In contrast to previous findings (Riksheim & Chermak, 1993), we observed that attempts have been made to empirically test propositions or hypotheses derived from theoretical frameworks. From a Belgian angle, another shortcoming is the assessment that only a small proportion of research that is mentioned in this review is based on continental-European data collection. We can of course question the extent to which research from entirely

different contexts, especially when dealing with a sensitive topic, applies to the Belgian situation. This calls for a research agenda on the topic that is currently lacking entirely.

Future research should aim to develop an integrative theoretical framework for understanding police use of force encompassing different levels of analysis. The need for further theoretical development remains necessary.

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