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**THE INFLUENCE OF CONTEXT IN POLICE
DECISION-MAKING
A SYSTEMATIC REVIEW OF THE LITERATURE**

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Resumo

A tomada de decisão é um tema importante. Deste modo, tem sido investigada ao longo dos anos, com diferentes abordagens e em diferentes contextos. Este estudo tem como objetivo providenciar uma vista geral dos estudos empíricos publicados sobre a temática da tomada de decisão policial, enfatizando o contexto no qual a mesma ocorre. Para este fim, conduzimos uma revisão sistemática da literatura, com o objetivo de providenciar o relato mais objetivo e transparente possível da literatura, para que investigadores e profissionais possam tirar proveito do mesmo para guiar as suas futuras decisões. Encontrámos algumas tendências na investigação, nomeadamente uma tendência para estudar contextos de incerteza e contextos operacionais, com diferentes características, algumas mais prevalentes. De modo geral, concluímos que a tomada de decisão policial tem sido uma área de grande interesse para os investigadores, mas ainda tem muito espaço para crescer e se expandir.

Palavras-chave: tomada de decisão; polícia; contexto; revisão sistemática da literatura

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Abstract

Decision-making is an important topic. As such, it has been researched over the years, with different approaches and in different contexts. This study aims to provide an overview of empirical studies published on the issue of police decision-making emphasising the context in which it occurred. To this end, we conducted a systematic review of the literature, with the aim of providing the most objective and transparent record possible of the literature, so that academics and professionals can take advantage of it to guide their future decisions. We found some trends in research, namely a tendency to study uncertainty and operational contexts, with different characteristics, some more prevalent. Altogether, we conclude that police officer decision-making has been an area of great interest for researchers, but that it still has a lot of room to grow and expand.

Keywords: decision-making; police officers; context; systematic review of the literature

Introduction

Each person, in their everyday lives, makes decisions. With more or less consequences, they are constantly made. Even without realizing because most times it is an unconscious process. However, some specific contexts and, in this case, professions, must be careful with their decision-making (Rake & Nja, 2009). Professionals such as doctors (Garcia-Retamero & Galesic, 2014) firefighters (Bayouth et al., 2013), or police officers, whom this review concerns, have a high responsibility in their job since, most of the times, their actions have relevant consequences not only for them but also for other parts that might be involved. These parts can be individuals, organizational elements, or even communities. That being said, it is important that their decision-making process is studied and understood, so that conclusions regarding it can be taken and considered to help professionals guide their actions. To promote

decision-making success (Nutt, 2008) and avoid failure (Bahrami et al., 2012; Nutt, 1999). For the present review, we decided to focus on police officers. Nevertheless, all other professions are deserving of this attention and efforts to pay it are highly encouraged.

The context in which a decision of a police officer may be made can be, as one made by anyone, highly diverse. There are many functions that a police officer might have to exert. From office jobs to field work, the situations can be many and varied. Routine operations such as traffic stops (Higgins et al., 2011; Vito et al., 2020), calls to action (Kane, 1999; Myhill, 2019), casual police-citizen encounters (Schulenberg, 2016; Stroschine et al., 2008) are among the contexts in which the need to decided may arise. In such contexts, several variables may have an important role. Characteristics of the situation or of the individuals that take part in it are among them. As verifiable by the examples above, research has been made regarding these variables and their possible influence in police decision-making. However, to our knowledge, no systematic reviews have been written to comprise the conclusions that such investigations have come to.

That is what we aim to do with this systematic review. The aim of the present study is to provide, to practitioners, academics and researchers, a global view about what has been studied and written about police decision-making, considering the context in which it happens. And, in this way, attempt to discover what the literature gaps are, and find out which are the implications for practice. To do so, we conduct an exhaustive search and review of papers about this topic, select the relevant ones, that fit our criteria, and analyse them in the light of our goal, summarizing their conclusions.

In this sense, this article begins with a definition of the main concepts of the study, the ones nuclear for the review: decision-making, context and police officers. Following that, we describe the methods used to conduct it. That section includes the search strategy, the eligible criteria, the data extraction and data analysis sections. Right after it, we present our results.

This section is organized in clusters, to provide an easier to follow structure that might organize better the thought process of the reader. Next, we discuss and compare the findings of the analysed papers. Before we finalize the review, some limitations of our research are presented. Finally, conclusions are drawn.

Main Concepts

Decision-making

Currently, there is a great number of decision-making definitions across the literature. It is a subject that has been studied for decades. Both researchers and practitioners, from a varied number of disciplines, are interested in it. Along the years, much research has been published regarding it in disciplines such as marketing (Ferrell & Gresham, 1985), psychology (Dhami, 2011; Santos & Rosati, 2015), management (Abubakar et al., 2019), and medical science (Martínez-Sanz et al., 2020). As such, it can be defined in different ways and it is common that we find several conceptualizations and approaches in the literature, as the ones presented next. Decision-making can be defined as a reasoning process that follows several steps and that includes individuals along with an environment (Kersten & Szpakowicz, 1994). It can also be said that it “is a process of making a choice from a number of alternatives to achieve a desired result” (Eisenfuhr, as cited in Lunenburg, 2010, p.2). These two definitions are not mutually exclusive. They can even be seen as complementary. Decision-making is, in fact, a reasoning process of a choice that is made between several alternatives. It involves the individual and the environment, as no decision can be made in the void. There is always a context surrounding it. Said context may or may not influence the decision, but it is there. For the purpose of the current review, decision-making is conceptualized as the decisions made by police officers in their working context.

Context

To review the study of the process of decision-making in the existing literature, we decided to select a framework to guide its course. As such, we decided to look at decision-making through the context in which it occurs. Decision-making can be influenced by several factors. Variables related to the individuals and to the situation can have an effect on it. And even when they do not, no 'real life' decision is taken without an underlying context. For this review, context is conceptualized as the circumstances in which the police officer makes the decisions. This includes factors related to the officers, the people with whom they interact with and the situation itself.

To analyse the context, we considered three aspects. The first was whether the decision took place in a context of certainty, risk or uncertainty. The second considered variable was if the decision-making context was operational or strategic. Finally, the environment or situation in which the decision-making was made was equated.

As mentioned above, the decision-making's context can be characterized by certainty, risk or uncertainty. Riabacke (2006) used these concepts to define the decision-making context. The author characterized the context of certainty as one in which the outcome of an action is previously known. A context of risk would be one where there are several possible outcomes and there is a known probability for each of them to happen. Finally, according to the author, within an uncertainty context the probabilities for each outcome to come to happen are unknown. Bialek et al. (2021) also considered these notions of certainty, risk and uncertainty but referred to them as decision-making conditions. Similarly, a certainty condition is one where the outcome of a decision is previously known. With an uncertainty condition it is

impossible to know the outcome since the external influences make the situation unpredictable.

As for the risk condition, the outcome is unknown, but its chances of happening are known.

For this review, we were more interested in the risk and uncertainty context since very rarely there is certainty in the police context. As such, based on the definitions existing in literature and the goal of this review, we consider that a certainty context is one where a police officer can decide knowing what the outcome of the decision will be. An uncertainty context is one where the outcome of the police officer's decision is completely unknown, because of the unpredictability of the situation and the involved external forces. Possible outcomes might be considered, but it is not possible to know the probability of each to occur. This would be the case, i.e., of a call to action, where the police officer cannot know what to expect once upon arrival. In this case, some possibilities might be equated but the probabilities are unknown. Finally, the risk context might be the trickiest to define, since the line that separates it from uncertainty is a very thin one. As it can be seen in the figure below (Figure 1), these concepts form a continuum and certain contexts might even fall in both categories. After all, all contexts end up having a certain amount of uncertainty associated with them, since we might predict outcomes and possibilities, but never be sure about the outcomes of our decisions. As such, we conceptualize a risk context as one where the outcome is unknown, but it is possible to predict its possibilities and the probability of them happening. In the police context, which this review concerns, that would include studies in which there is a certain environment or individual characteristics that might predict a decision. That would be the example of studies focused on intervention planning. In this case, the possible outcomes are known, and it is possible to predict the likelihood of each of them to happen, allowing a more certain decision than one that would be taken with no knowledge of the probabilities.

police officer and can anyway benefit from this review. But a police officer is not necessarily a specialized officer and probably would not benefit from it. As such, police officers, in the context of this systematic review, are those members of law enforcement that are not specialized in any area of policing. That being, they carry out regular police tasks, such as patrol duties or desk work, but do not take part in specialized activities.

Method

The type of review selected for this study was the systematic review of the literature. It is one of the most objective methods known to review the existing literature. Systematic reviews assure replicability and transparency, leaving less space for biases (Cook et al., 1997). A systematic review of the literature aims to guide practitioners, giving them knowledge to fundament their decisions. It may assist in resolving of theoretical conflicts, confirm or refute evidence that guides practice, help clear uncertainties that origin in practice, just as identify gaps and tendencies existing in literature (Munn et al., 2018).

Search Strategy

To conduct this review, firstly we recalled what a systematic review of the literature is, along with its procedures. Secondly, we selected the databases where we would make our search, and defined the research terms, as well as the research expression and the inclusion and exclusion criteria. We conducted the search in three databases: Web of Science, Scopus and CEPOL's (European Union Agency for Law Enforcement Training) database. The terms we selected to conduct the search were "decision-making", "decision-making styles", "decision-making strategies", "decision-making categories", "police officers", "police", "law enforcement", "cops" and "officers". Our research expression ended up being the following: ("decision-

making" styles OR "decision-making" strategies OR "decision-making" profiles OR "decision-making" categories OR "decision-making" classifications) AND (police officers OR police* OR law enforcement OR cops OR officers). Initially, we intended to explore more in depth the decision-making styles of police officers, hence the emphasis on these terms. After the data extraction we realized that not enough papers existed to conduct a concise review regarding those and opted to have a broader focus on decision-making.

Next, we made the actual search and extracted the results. The next step was to find and remove the duplicates. With the duplicates removed, we proceeded to the next screening process: exclusion of papers based on titles and abstracts. For this step we decided to let progress to the next phase the papers that mentioned both police and decision-making, whether direct or indirectly. Sometimes the terms “decision-making” or “decision” were not present but some reference to the process, or some related process was. The next step was the analysis of the papers’ full text. Here, the inclusion and exclusion criteria were considered, as well as the framework we chose to follow. It is to be noted that, in some cases, a paper could be excluded due to more than one criterion (i.e., not focusing decision-making and not focusing on police officers). However, for the purpose of the making of the flowchart present below (Figure 2), we attributed only one criterion to each elimination. The order of importance is the one of the eligible criteria. Meaning, the main reason for exclusion would be not focusing on decision-making. After the last step, we had our final sample. These steps and the results of each are visible in the flowchart presented below (Figure 2). During all the process, we guided ourselves with a research protocol made for that purpose, the conduction of the review (Appendix 1).

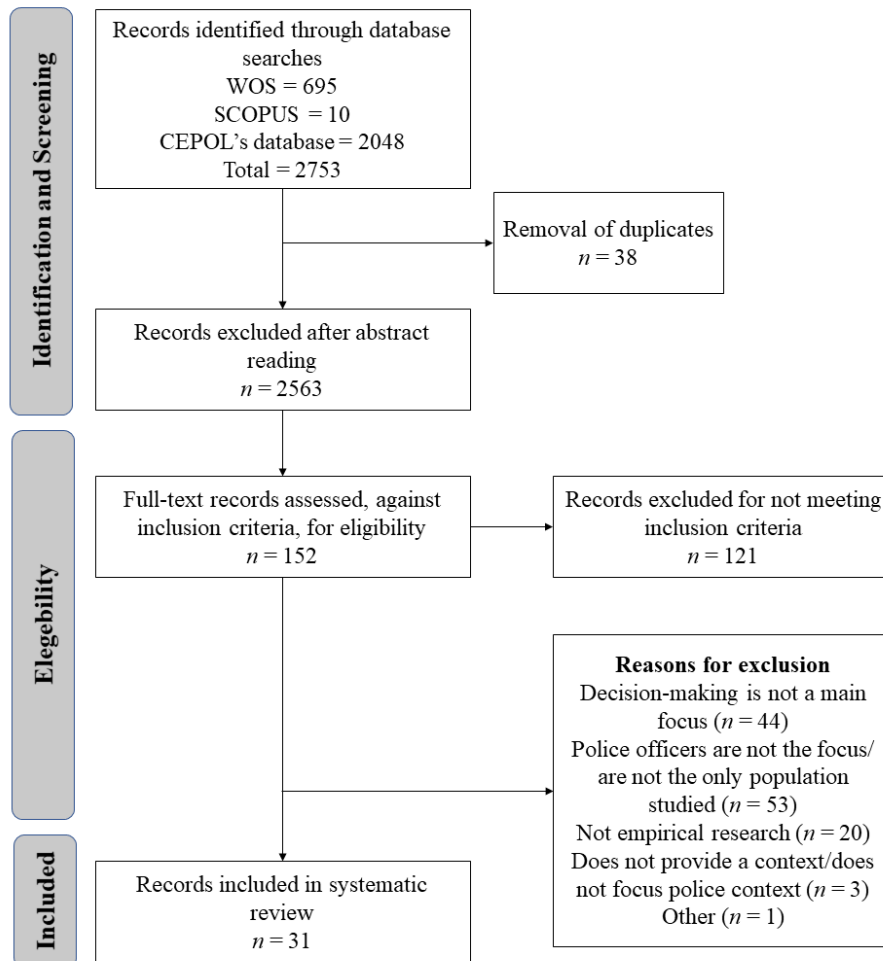


Figure 2: Flowchart of the final sample selection process

Eligible criteria

(1) The studies must focus on decision-making. This does not mean that the studies should exclusively focus on it but that it must be one of the main topics discussed and not just one of the variables considered. As such, studies that do not have decision-making as a main focus must be excluded. Studies where decision-making is only briefly mentioned or papers where it is studied but it is not a major concern for the findings and implications were not selected for the final sample.

(2) The studies must focus on police officers. To ensure that police officers from all over the globe and within the various ranks and specializations can find some use in this review, we

considered the papers that investigated police officers with no specialization. This means that specialized branches of police were not considered on this research. Those were the cases of officers such as detectives, firearms officers, hostage crisis negotiators, youth officers, or campus officers. We included the papers that had police officers, or its counterparts, since in some countries the designation for the function varies, as subjects and respondents.

This review concerns the generic police officer. As such, we aim to explore their perspectives. This means that only studies that use data provided by police officer are considered in this review. This excludes, from this review, papers that, even though they aimed to explore police decision-making, had other professionals, students or any other citizen as respondents. On the same note, other police staff and specializations or ranks specific to certain countries or areas of the globe were not considered.

Summarizing, papers that do not exclusively study police officers must be excluded. Studies that contain samples with students, citizens or any other person that is not a police officer were excluded. Likewise, studies that referred to specialized police functions were eliminated, even if decision-making was their main study goal. However, studies that targeted patrol officers were included in the sample since that terminology only limits the concept to a geographical area but not the functions of the officer, that are those of the generic police officer. The purpose of patrol officers is to serve a community and respond to their needs (Fallik & Novak, 2012). Which we consider, generally, to be the purpose of non-specialized police officers.

(3) The studies must exclusively focus on decision-making in police context. Papers that do not focus on decision-making in police context must be excluded. This means that papers with training or experimental situations with scenarios that do not encompass a situation within police context were eliminated.

(4) The studies must contain some specific context in which the decisions are made, besides the obvious policing context. More objectively, there needs to be other focus on the

study, besides the decision-making, that may provide a further context. Per example, a study that analyses decision-making within a domestic violence context is considered, since decision-making is explored within the specific context of domestic violence. Likewise, a study that analyses the decision to use force is also accepted in this review, since the decision-making studied is specific to the context of use of force. Opposite, a study that simply explores police decision-making or its relationship with other variables, in no specific situations or not considering characteristics of the individual, do not have an underlining context and should not be considered for the review. For example, a research that simply aims to explore the relationship between decision-making and stress, and not decision-making under stress, under no specific context, should not be included in the final sample. Papers that did not provide a context, besides the policing one, were excluded. This comprises, i.e., experimental studies where the relationship between variables is tested but there is no subjacent context to them.

(5) The studies must be written in English.

(6) The studies must be either articles or proceeding papers.

(7) The studies must be empirical.

Data Extraction

To analyse each study's data, we created an Excel sheet to fill with relevant information we extracted from the papers. The columns of the sheet were: "Title", "Authors", "Publication year", "Area/Subject", "Study's aim/goal", "Design/Methodology" (which included the focused individuals), "Findings", "Practical implications", "Originality/Value", "Decision-making model/theory" (if any was used), "Context" (to check if there was a context), "Decision-making context: certainty; risk; uncertainty" (three columns; the point was to check the one that applied to the paper), "Decision-making context: operational; strategic" (two columns, to check one), "Decision-making context: ambience/characteristics" (to mention the

specific context present in the paper) and “Observations” (where, usually, the reasons for exclusion were written, along with any other pertinent information). After filling the table with the available information, it became clear, for the most part, which papers should be eliminated. The ones that generated more doubt were discussed among researchers.

Data Analysis

Along with the extraction of the data, we analysed it. Considering the extracted information, we attempted to classify the context of each study within the categories we had asserted. Firstly, we classified each context as one of certainty, risk or uncertainty, based on the conceptions we initially made, inspired by Riabacke (2006) and Bialek et al. (2021)’s own conceptualizations. Right after, we situated each context either in the operational or strategic options. The definition of each of these concepts was discussed and agreed between researchers. Finally, we wrote down the more relevant and specific context characteristics analysed in each paper.

Results

A varied array of contexts could be found in the revised literature. However, most of them ($n = 29$) fall within the uncertainty condition. Identically, most refer to operational settings ($n = 30$). As for the specific ambient, there were some prominent tendencies, along with some rarities. Contexts of traffic stops ($n = 10$), racial profiling ($n = 15$), or domestic violence incidents ($n = 4$) were some of the most common contexts to appear. Many times, they even overlapped with each other. Some unique cases appeared too, such as one study concerning protest policing (Eggert et al., 2018) and one analysing nightlife settings (Buvik, 2016).

Most of the analysed papers did not have decision-making as an exclusive focus. For the most part, decision-making was a main topic but alongside another one. Most of the papers also

focused discretion (i.e., Buvik, 2016; Dabney et al., 2017; Leinfelt, 2006). This is not surprising since the terms are utterly connected, and many times even confused or used interchangeably. However, differently from decision-making, as it was defined above, discretion does not regard the decision being made but a way to make it. That is, to have a more casual approach to a situation rather than act according to the legal principles, even when that would be justified (Schulenberg, as cited in Schulenberg, 2016). Nevertheless, other main topics appear, many of them being the actual context of the study. That is the case of racial profiling (i.e., Minhas & Walsh, 2018; Regoeczi & Kent, 2014; Schafer & Mastrofski, 2005).

In the next sections, we provide a more detailed account of the found results. Likewise, we present a table (Table 1) that summarizes these same findings, regarding the context described in each of the revised papers. This table has three columns, besides the one with the authors' names, to describe the specifications of the context: certainty, risk or uncertainty; operational or strategic; characteristics of the context, that is, the ambient, situation or intervenient characteristics that were more relevant for the study. This does not mean that the mentioned characteristics were the only ones being studied but the ones more relevant to the research. Almost all papers had officer and citizen characteristics in consideration, just not as a focus.

Certainty vs Risk vs Uncertainty

Of all the analysed papers, not surprisingly, none fitted the certainty context. Police work is naturally characterized by risk and uncertainty. To our understanding, decisions where the outcome is completely known are rare to the point of being almost inexistent. Risk contexts were also, this time unexpectedly, rare. According to our conceptualization, only one paper (Eggert et al., 2018) fitted this typology. This is, possibly, because most of the research concerned interactions between the police officer and citizens, within contexts with several

variables and influences that provide uncertainty. Human behaviour is unpredictable (Cziko, 1989). Arguably, even more in new and unknown situations. As such, every interaction that a police officer has with a citizen is surrounded by uncertainty: of who the person is, what it might do, how it might behave, making harder the decisions that need to be made. Even though it is possible to predict the outcomes of certain interactions, such as a traffic stop, it is unknown what the probabilities of them happening are. Between race/ethnicity of the driver (Fallik & Novak, 2012), daylight (Vito et al., 2020), officer characteristics (Regoeczi & Kent, 2014), every situation is new and unpredictable. The knowledge of the probabilities is what characterizes a risk context. Not being able to predict them, in our view, a context must be classified as uncertain. Eggert et al. (2018) was the only paper to be considered within the risk category because it regarded decision-making prior to action. It described circumstances where it was possible for police officers to predict outcomes and probabilities of how the protests might occur and how they could decide in said circumstances.

Operational vs Strategic

Most of the papers fit within the operational context ($n = 29$), with only one paper describing a strategic context (Eggert et al., 2018), and another one considering both operational and strategic context (Phillips, 2008). The strategic context ones were considered as such because they did not refer exclusively to the decisions of one police officer but to the decision-making of a group of them, with a broad focus on several variables and organizational parts (Eggert et al., 2018) or to the decision-making characteristics of police departments, making comparisons between them (Phillips, 2008). Phillips (2008) also investigated individual police officer decision, and for that the context was also considered operational. As for the remaining papers, their context was deemed as only operational since the focus of the studies was on the decision-making of the individual police officer. This decision could have consequences, but those

would be, most likely, limited to the police officer and the people they are interacting with. Reversely, a decision made within a strategic context is one that may have larger consequences, for other organizational parts besides the police officer. The clear unproportionality of studies that fit in the first category is possibly due to the criteria we defined. The exclusive attention to the generic police officer, even if that included their leaders and supervisors, may have been limiting of the results. Given that the focus is on the individual, it is only natural that an operational context arises as the most prominent.

Characteristics of the ambient and intervenients

Context can be provided by both the characteristics of the ambient where the decision is made and by the characteristics of the intervenient. As for the ambient, it can refer to an actual physical space or to the ongoing situation. As such, to what refers to ambient, there were papers referring to, namely, traffic stops (i.e., Higgins et al., 2011; Petrocelli et al., 2003; Vito et al., 2020), to domestic violence incidents (i.e., Kane, 1999; Myhill, 2019; Waaland & Keeley, 1985), neighbourhood context (Gaston & Brunson, 2020; Petrocelli et al., 2003; Skaggs, 2019) and culture (Birkbeck & Gabaldón, 2018; Brown & Daus, 2016). All characteristics of context can be seen in the table below (Table 1). To what regards characteristics of the intervenients, some studies deepened the knowledge about features of the police officer or of the persons they interact with. As for the latest, race is, by far, the most prominent focus (i.e., Avdija, 2014; Dabney et al., 2017; Vito et al., 2019). Overall, despite some emerging trends, a good variety of context characteristics could be found in the revised literature.

Table 1: Police decision-making context characteristics

Paper	Certainty/Risk/Uncertainty	Operational/Strategic	Characteristics
Avdija (2014)	Uncertainty	Operational	<ul style="list-style-type: none"> - Stop-and-frisk - Suspect characteristics (emphasis on race)
Birkbeck & Gabaldón (2018)	Uncertainty	Operational	<ul style="list-style-type: none"> - Decision to use force - Venezuelan police - Citizens' status (influence and respectability) - Several scenarios
Bonner (2018)	Uncertainty	Operational	<ul style="list-style-type: none"> - Dispute encounters
Brown & Daus (2015)	Uncertainty	Operational	<ul style="list-style-type: none"> - Emotions (anger control) - Two scenarios: shoot a threatening suspect (or not) and issue a speeding ticket (or not)
Brown & Daus (2016)	Uncertainty	Operational	<ul style="list-style-type: none"> - Emotions (anticipated regret) - Two scenarios: shoot a threatening suspect (or not) and issue a speeding ticket (or not) - Culture: Jamaica and USA
Buvik (2016)	Uncertainty	Operational	<ul style="list-style-type: none"> - Nightlife setting - Situational, system, offender and officer variables

Dabney et al. (2017)	Uncertainty	Operational	<ul style="list-style-type: none"> - Community - Suspect characteristics (emphasis on race and hip-hop culture appearance) - Officer characteristics - Legal and extra-legal factors
Eggert et al. (2018)	Risk	Strategic	<ul style="list-style-type: none"> - Protest policing - Decisions before the protest - Police knowledge - Protest threat
Fallik & Novak (2012)	Uncertainty	Operational	<ul style="list-style-type: none"> - Automobile stops - Driver characteristics (race/ethnicity) - Decision to search
Gaston & Brunson (2020)	Uncertainty	Operational	<ul style="list-style-type: none"> - Neighbourhood - Race - Police-citizen encounters - Routine enforcement practices - Drug arrest reports
Higgins et al. (2011)	Uncertainty	Operational	<ul style="list-style-type: none"> - Traffic Stops - Race/ethnic backgrounds - Decision to search
Kane (1999)	Uncertainty	Operational	<ul style="list-style-type: none"> - Domestic Violence - Offender present vs offender absent - Decision to arrest
Leinfelt (2006)	Uncertainty	Operational	<ul style="list-style-type: none"> - Traffic stops - Racial profiling

			<ul style="list-style-type: none"> - Decision to arrest, to issue a citation or give a warning
Lum (2011)	Uncertainty	Operational	<ul style="list-style-type: none"> - Place characteristics - Decision pathways
Minhas & Walsh (2018)	Uncertainty	Operational	<ul style="list-style-type: none"> - Racial profiling - Stereotypes - Drug trafficking scenario
Myhill (2019)	Uncertainty	Operational	<ul style="list-style-type: none"> - Domestic violence - Decision to arrest
Petrocelli et al. (2003)	Uncertainty	Operational	<ul style="list-style-type: none"> - Traffic stops - Neighbourhood - Racial and socioeconomic factors
Phillips (2008)	Uncertainty	Operational and Strategic	<ul style="list-style-type: none"> - Organizational characteristics - Domestic violence - Mandatory arrest
Quinton (2011)	Uncertainty	Operational	<ul style="list-style-type: none"> - Stop and search - Suspicion - Legal and social context
Regoeczi & Kent (2014)	Uncertainty	Operational	<ul style="list-style-type: none"> - Racial profiling - Officer and citizen characteristics - Decision to issue a ticket or give a warning
Schafer & Mastrofski (2005)	Uncertainty	Operational	<ul style="list-style-type: none"> - Traffic enforcement encounters - Racial profiling - Leniency in sanctioning
Schulenberg (2016)	Uncertainty	Operational	<ul style="list-style-type: none"> - Police-citizen encounters - People with mental illness

Skaggs (2019)	Uncertainty	Operational	<ul style="list-style-type: none"> - Rural communities - Police-juvenile interactions - Decision to arrest - Situation, officer, organization and neighbourhood factors
Sousa (2010)	Uncertainty	Operational	<ul style="list-style-type: none"> - Order maintenance - Minor offenses
Stroshine et al. (2008)	Uncertainty	Operational	<ul style="list-style-type: none"> - Police-citizen interaction - Suspicion - Organizational, legal, individual and environmental factors
Trujillo & Ross (2008)	Uncertainty	Operational	<ul style="list-style-type: none"> - Domestic violence - Risk assessment
Vito et al. (2017)	Uncertainty	Operational	<ul style="list-style-type: none"> - Traffic stops - Racial and gender bias
Vito et al. (2018)	Uncertainty	Operational	<ul style="list-style-type: none"> - Traffic stops and searches - Racial profiling
Vito et al. (2019)	Uncertainty	Operational	<ul style="list-style-type: none"> - Traffic stops - Consent searches - Racial profiling
Vito et al. (2020)	Uncertainty	Operational	<ul style="list-style-type: none"> - Traffic stops - Daylight - Racial profiling
Waland & Keeley (1985)	Uncertainty	Operational	<ul style="list-style-type: none"> - Wife abuse - Legal and extralegal factors - Individual characteristics

Discussion

Police officer decision-making can be affected by an immense array of circumstances and varied contexts. This affirmation can be confirmed by the results presented above.

Considering the evidence analysed in this review, it seems that police decision-making research still has a lot of ground to cover. Several contexts are being studied, and some tendencies are notable. To what here is visible, this research line goes as far as the 1980's, when the oldest paper we revised was published (Waaland & Keeley, 1985). However, the contextual variables present in the papers are many and diverse. Some, such as traffic stops and racial profiling, are very usual and associated with different variables. But others, such as policing in rural communities (Skaggs, 2019), police encounters with people with mental illness (Schulenberg, 2016) or influence of citizen's social status (Birkbeck & Gabáldon, 2018) seem to not have been paid much attention. It is, in our vision, necessary to expand the knowledge about these understudied contexts, to be given the same attention as the other contexts mentioned before.

We also noticed that, sometimes, the results regarding the same topic are contradictory. As an example, studies about police decision-making in a racial profiling context have found evidence both of confirmation (i.e., Avdija, 2014; Gaston & Brunson, 2020) and denial of the existence of racial bias (i.e., Bonner, 2018; Dabney et al., 2018; Fallik & Novak, 2012). Despite this being already a highly targeted research context, it seems that it could benefit from even more, as it still seems relevant. The implications of such studies might be of great relevance for professionals.

Perhaps the most relevant trend we can verify with this work is the unbalanced focus in uncertainty and operational contexts. The categorization of each paper in either of the categories may be due to the definitions we gave to them. Nevertheless, these are remarkable tendencies. Curiously, the only paper we placed under the risk context (Eggert et al., 2018) was

also one of the only two that was placed under the strategic context. This makes sense to us, since strategic decisions, as it was mentioned above, concern more variables and consequences, and as such are usually taken in context with a bit more certainty attached to them. This verified trend leads us to a suggestion for future researchers: risk and strategic contexts should be more focused and analysed.

Another interesting finding is that there seems to be little consistency into what it concerns the theories used to analyse police decision-making. In our review we could find police decision-making studied, namely, in light of the focal concerns theory (Higgins et al., 2011; Vito et al., 2017, 2018, 2019), conflict theory (Petrocelli et al., 2003) or loose-coupling theory (Phillips, 2008). We did not analyse this in depth but consider it an interesting finding, as it demonstrates the will to explain this process from different perspectives. It seems to suggest the uncertainty inherent to police decision making, as well as the diversity of contexts studied, since there still does not exist one theory that prevails above all, to explain police decision-making.

Limitations

This review is not without its limitations. One of them, and possibly the most relevant, is the possible subjectivity and bias of the researchers. Some papers create some ambiguity and doubts arise regarding, i.e., if decision-making is being treated as a central theme. Even though the systematic review of the literature is a rigorous and transparent method, decisions must be made throughout the process, namely during the reading of the abstracts and full papers, and those may be subject to bias. Another limitation that we highlight is the ambiguity in some data itself. Specifically, regarding our second inclusion criteria: the studies must focus on police officers. Most of the analysed papers referred specifically that police officers were the studied population. However, some authors only mentioned that police officers' reports were analysed.

Since no specialization was referred, it is assumed that the actions were performed by regular police officers. But we cannot truly know that unless we read the reports. Future research on police decision-making should have this in consideration. Specification of the police officers studied should be present. On the same note, this systematic review exclusively focuses on the generic police officer. The reason for that is mentioned above, in the inclusion criteria. Nevertheless, reviews focused on specialized police branches would, undoubtedly, be in the best interest of academics and practitioners working within them and, as such, are encouraged. Following this line of thought, there also might exist some subjectivity in the interpretation of what constitutes a risk or an uncertainty context. We had plenty of doubts regarding it because most papers are ambiguous in that matter. Without a doubt, all risk contexts have a broader context of uncertainty. Some have a more prominent risk context. The distinction between the two, for us, was mostly based on the unpredictability of the external actors. However, different researchers may find other criteria to distinguish the two types of context, which might lead to different conclusions. Lastly, another limitation lies on the fact that we decided to only review articles and proceedings. The more information and types of papers a systematic review of the literature includes, the more probability of it being feasible and informing of the theme studied. It is encouraged that future researchers bear this in mind and make efforts to include other types of documents.

Conclusion

The concept of context is broad and may generate ambiguity. Several variables, circumstances and characteristics can constitute a context and the more they are, the more ambiguous a context might become, and the more uncertain too. Police officer decision-making, as we conceptualized it, happens constantly under these said contexts. As we were able to verify, it

occurs, and is influenced, in the most varied ways. As such, it gives way to various study topics that lead to both consistent and contradictory findings. We aimed to review those results and provide to academics and practitioners an account of what has been studied in this field. We believe we have been successful at it, as we were able to provide a simple yet explicit and honest report of what decision-making by police officers research is up to now. Additionally, we bring to the literature a valuable contribution as this paper, to our knowledge, is the first to analyse the literature published regarding decision-making of police officers, with attention to the context in which it occurs.

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Appendix 1 – Research Protocol

Research Protocol

Title: The influence of context in police officer decision-making: A systematic review of the literature

Research plan (proposed by Denyer e Tranfield, 2009)

1. Research question definition;
2. Papers/reports search;
3. Papers/reports selection and evaluation;
4. Analysis and synthesis; and
5. Findings.

1 – Research question (RQ) definition:

Main RQ:

- 1) **What is the influence of context in police officer decision-making? What has been studied about this topic?**

Supplementary RQ:

- What contexts have been studied? Which ones are prevalent?

2 – Papers/reports search: Database for papers:

2.1. Search criteria

Database: Web of Science, Scopus and CEPOL's database

Publication year: All years

Language: English

Search Date: 2020

List of words with similar meaning to be used in the search expressions

keywords	Synonymous
Decision making	
Decision-making styles	Decision-making strategies; Decision making profiles; decision making categories; decision making classifications
Police officers	Police; Law enforcement; Cops; Officers

2.2. Search expressions

2.2.1. Search expressions for general purpose

("decision-making" styles OR "decision-making" strategies OR "decision-making" profiles OR "decision-making" categories OR "decision-making" classifications) AND (police officers OR police* OR law enforcement OR cops OR officers)

2.3. Search results:

2.2.1. Search results for general purpose

Search expressions	Nr. of results
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	Web of Science	Scopus	CEPOL's database
("decision-making" styles OR "decision-making" strategies OR "decision-making" profiles OR "decision-making" categories OR "decision-making" classifications) AND (police officers OR police* OR law enforcement OR cops OR officers)	695	10	2048