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Swedish police officers' views of selected evidence-based policing research findings

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Criminology and Police Management

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Research Contract

Research question

What are the opinions on usefulness of, and the previous knowledge about, selected policy-relevant evidence-based policing (EBP) research findings on crime and policing of Swedish police officers?

Sub Questions

1. *What are the opinions of Swedish frontline police officers on usefulness of selected policy-relevant evidence-based policing (EBP) research findings on crime and policing?*
 - a. *Does support for research findings differ between different subgroups (e.g. age, years in service, gender, level of education)?*
2. *To what extent do frontline police officers report previous knowledge about selected policy-relevant evidence-based policing (EBP) research findings on crime and policing?*
 - a. *Does previous knowledge about research findings differ between different subgroups (e.g. age, years in service, gender, level of education)?*

Research Design

The current study is an observational study that aims to explore what kind of research seems useful to frontline police officers and describe relevant differences between subgroups. Furthermore, the thesis aims at examining the respondents' self-assessed previous knowledge.

Data and methodology

The research instrument used in this study is a group-administered self-completed survey conducted with the population of frontline officers and their supervisors in two local police areas in Stockholm between May 23rd, 2019 and June 13th, 2019. The data consists of 114 responses which equals a response rate of 86 percent.

Analytic methods

Descriptive statistics were used to describe the three key variables, i.e. practical applicability and strategic usefulness of, and previous knowledge about, 14 research findings from EBP-research. The respondents used a unipolar 5-point-scale, ranging from “Not at all” to “To a very great extent” to rate the three concepts for each finding.

Correlational analysis using Spearman's rho is used to explore possible relationships between variables. Median (Md) comparisons are used to examine possible differences between different subgroups in the population.

Findings

The surveyed frontline police officers and their supervisors (N=114) perceive most of the results as being useful to their daily work (Md=3). Overall, they are also happy with the results being taken into account when frontline police work is being planned (Md=3). Two research results have received higher median ratings. These findings have in common that they most closely resemble the current task of intervention police, i.e. making arrests and building relationships with the public. The three findings that have received lower median ratings from police officers have in common that they concern tasks that are not primarily carried out by frontline officers in Sweden. Previous knowledge of the results overall is limited (Md=2) among the respondents. No meaningful differences among the subgroups can be observed concerning perceived usefulness and previous knowledge.

Policy implications of the findings

The findings of this study suggest that frontline police officers in the organisation are open to using the selected findings in their daily work. This adds valuable input to the discussion about professionalizing the police, especially since the main focus has previously been directed at improving the training of new police recruits. The findings of this study suggest, however, that frontline officers who are already in the organisation also constitute a group that ought to be recipients of EBP training. In addition, the officers' limited previous knowledge on research findings suggests that this is an area with room for improvement.

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List of research results used in the questionnaire

Short version	Survey version
Targeted patrolling - 15 minute rule	It is not necessary to patrol hot spots for longer than 10 to 15 minutes at a time. Patrolling a hot spot for longer than this does not increase the deterrent effect (Koper 1995).
Targeted patrolling - firearms	Targeted patrolling of places with high levels of firearm assaults reduces firearm assaults substantially in those places, without any displacement of crime to surrounding areas or times (Rosenfeld et al. 2014).
Targeted patrolling - no displacement	Targeted patrolling of hot spots does not lead to the displacement of crime to neighbouring areas (Weisburd et al. 2006).
Targeted patrolling - reduces crime	Targeted patrolling of hot spots reduces crime and disorder in these areas (Sherman and Weisburd 1995, Braga et al. 2012).
Targeted patrolling - residual deterrence	The residual deterrence of targeted patrolling lasts for four days after police leave a crime hot spot. After that, crime levels increase substantially in the targeted location (Barnes et al. under publication).
DV - Cara	Fewer men reoffend against partners and reoffenders cause less harm to victims when mandated to attend charity-run Cautioning and Relationship Abuse (CARA) workshops (Strang et al. 2017).
DV - short-term effects of arrest	Partner arrests for domestic assault reduce the victim's risk of being re-victimized by the same offender up to six months after the arrest (Sherman 1992).
DV - long-term effects	Partner arrests for domestic common assault apparently increase premature death among their female victims, especially African-American women (Sherman and Harris 2015).
DV - suicide warning marker	One warning marker of serious domestic abuse may be suicidal ideation or threats of self-harm by an offender (Thornton 2017, Rye and Angel 2019).
Power few - Places	Crime is not randomly distributed between different places but is heavily concentrated to certain delimited places (so-called hot spots) (Sherman et al. 1989, Weisburd 2015).
Power few - Victims	Less than 4 percent of victims suffer 85 percent of the victim harm in a given area (Dudfield et al. 2017).
RJC - PTSS	A meeting between an offender and a victim led by a police officer can lead to a short-term reduction in symptoms of PTSS in the victim (Sherman et al. 2005).
RJC - Reoffending	A meeting between an offender and a victim led by a police officer can lead to an initial reduction of repeat offending in offenders (Sherman et al. 2015).
Citizen perception	Citizens' perceptions of the police are influenced by the way in which police interact with citizens during routine encounters e.g. breath tests (Mazzerolle et al. 2012).
Knife Crime	The majority of knife homicides take place in neighbourhoods which have previously been subject to non-lethal knife attacks (Massey, Sherman, Coupe 2019).

Abbreviations

Brå – Swedish National Council for Crime Prevention (Brottsförebyggande rådet)

CARA - Cautioning and Relationship Abuse

DV – Domestic Violence

EBP – Evidence-based policing

PTSS – Post Traumatic Stress Symptoms

RJC – Restorative Justice Conferences

RiR - Swedish National Audit Office (Riksrevisionen)

SCB – Statistics Sweden (Statistiska Centralbyrån)

SL – Stockholm Public Transport (Aktiebolaget Storstockholms Lokaltrafik)

SOU – Official Reports of the Swedish Government (Statens Offentliga Utredningar)

1. Introduction

Before the Swedish general election in 2018, there was a consensus among most of the Swedish parties that they want to invest in the police to address developments in crime and feelings of safety. While the different parties have different opinions how serious the recent developments in crime are, most of them agree that the police are the main part of the solution (Socialdemokraterna 2019, Moderaterna 2019, Sverigedemokrater 2019, Centerpartiet 2019). Subsequently, the police were granted an increase in their budget by the current government at the beginning of 2019 so that they will be able to expand their organisation with 10,000 members of staff until 2024, i.e. the Swedish police will increase their number of staffs by a quarter of the current organisation in the upcoming five years.

While from a political perspective the main objective has been an increase in the number of police staff to solve problems related to crime and disorder, there have also been calls for a professionalization of the police. These calls have mainly been focusing on how to transform police training.

In 2015 the Swedish government appointed a committee to explore how training and education to become a police officer could be redesigned into a fit-for-purpose higher education program (Regeringen 2015). The government stated that the reason for redesigning the police education program was to create a professionalised police force that is well-prepared to carry out its mission in a complex and ever-changing society. To be able to do so, the police must keep up with changes in crime with regard to new, emerging crime types, changes in the characteristics of crime, and technological advances. The assumption is that grounding the education of future police officers in police research will lead to an increase in the police's capacity to *absorb and analyse knowledge, make their own independent and critical assessments, identify problems and propose solutions* (SOU 2016 p.2). Advocates of the higher education program suggest that a higher education program for police officers will bring forth police officers that more

easily can assimilate research results and turn them into practice (Sarnecki 2010, SOU 2016:39, Sarnecki 2019).

The Swedish police training programs in five different locations are currently examining the possibilities of offering police training in the form of higher education and are planning to admit the first students in the next few years. At the moment, there is no date set for when the first officers who have completed the new programme will probably start.

However, when they are today's frontline officers will then become their senior colleagues and supervisors and managers.

1.1 Objectives

This thesis aims to explore what kind of research seems useful to frontline police officers and describe relevant differences between subgroups. Furthermore, the thesis aims at examining the respondents' self-assessed previous knowledge.

The key research questions are:

1. *What are the opinions of Swedish frontline police officers on usefulness of selected policy-relevant evidence-based policing (EBP) research findings on crime and policing?*
 - a. *Does support for research findings differ between different subgroups (e.g. age, years in service, gender, level of education)?*
2. *To what extent do frontline police officers report previous knowledge about selected policy-relevant evidence-based policing (EBP) research findings on crime and policing?*
 - a. *Does previous knowledge about research findings differ between different subgroups (e.g. age, years in service, gender, level of education)?*

More specifically the proposed thesis will measure the attitudes and previous knowledge of a group of operational police officers towards 14 research findings on police operations.

Finally, it will be discussed what implications the findings have for training Swedish police about evidence-based policing.

1.2 Disposition

This thesis consists of six chapters. The first chapter is the introduction to the thesis. The second chapter includes the literature review that starts off with a description of police research focusing on the concept of evidence-based policing, followed by a description of the gap between research and practice. The third chapter describes the choice of data collection and the analytical methods used to answer the research questions. Chapter four contains the findings of this study and is divided into two parts. The first part contains a description of the background variables and the key research variables. The second part of the chapter examines whether there are differences between different subgroups in the population. The fifth chapter is the discussion, containing a summary of the key findings, a discussion of the study's limitations and the implications concerning police policy and research. The last chapter of this thesis is the conclusion.

2. Literature review

2.1 What is police research?

The answer to this question is a complex one and varies depending on who is asking and who is answering. The European Union Agency for Law Enforcement Training (CEPOL) defines police research in the following way:

Police Science is the scientific study of the police as an institution and of policing as a process. As an applied discipline it combines methods and subjects of other neighbouring disciplines within the field of policing. It includes all of what the police do and all aspects from outside that have an impact on policing and public order. Currently it is a working term to describe police studies on the way to an accepted and established discipline. Police Science tries to explain facts and acquire knowledge about the reality of policing in order to generalise and to be able to predict possible scenarios. (Jaschke et al. 2007)

Over the past 10 years there have been several attempts to compile existing Swedish police research in literature reviews, all of which have used the above definition (Polishögskolan 2012, Larsson et al. 2016, Brå 2018a). The most recent of these attempts was a literature review by the Swedish National Council for Crime Prevention, which focused on research concerning the Swedish police published between 2010 and 2017. The authors found 179 publications that fit their definition, with the largest number of publications being noted in 2013 (30) and the smallest number in 2017 (17).

2.1.1 Two research traditions in policing?

CEPOL's definition of police research is a rather generous one, and includes a large number of themes and research areas. Bradley and Nixon (2009) describe two research traditions in the field of police research, one being critical police research and the other policy police research. These two research traditions differ substantially in four respects, i.e. the role of the researcher, their focus, their aims and the target for their recommendations. These differences are described below and summarized in Table 1.

Table 1. Table summarizing Bradley and Nixon's (2009) description of two research traditions in police research.

	Critical Police Research	Policy Police research
Role of researcher	Independent expert	Involved partner
Focus	Police as an organisation, the role of the police in society	Effects of police work
Aim	Critical examination of the police organisation to hold the police accountable for their actions	Alter policing policies and practices to adapt them using an evidence-based approach
Target for recommendations	Government and legislators	Police and policy makers

The critical research tradition sees the researcher as an independent expert who assesses the police from the outside, e.g. an academic at a university with no affiliations to the police. To conduct his or her work the researcher is dependent on a gatekeeper to obtain access to data and subjects within the organisation (Bradley and Nixon 2009). This research tradition focuses on police organisations and its role in society in order to make recommendations to government and legislators, so that these can hold the police accountable for their actions.

In the policy police research tradition on the other hand, the role of the researcher is more that of becoming involved with the subjects under study. Researchers from this tradition may still be academics at a university, but in contrast to researchers from the critical

tradition these researchers will either have established a partnership with the organisation they are examining or they have a background in policing themselves. While the critical police research tradition is concerned with the role of the police, policy police research focuses on the effects (or the absence of effects) of police work. The targets for their recommendations are police and policy makers, and the recommendations focus on facilitating changes to policing policies and practices based on research evidence (Bradley and Nixon 2009, Weisburd and Neyroud 2011).

Bradley and Nixon (2009) do not state that one research tradition is better than the other. Rather, both traditions have their benefits in relation to different aims and they complement one another. However, at least in the Swedish context, there are indications that there is an imbalance in the number of studies produced by the two research traditions. The authors of the most recent literature review of published research relating to the Swedish police (Brå 2018a) have noted that while the majority of the included studies relate to police work and methods in general, there is a paucity of studies concerning the effects of police work.

2.2 What is evidence-based policy?

The concept of evidence-based policy has emerged from the research tradition of policy police research. The main concern of evidence-based policy is that of reducing the role played by ideology, prejudice and speculative hunches in policy decisions (Munro 2015). Policy decisions should instead be made on a rational basis, aided by research results based on rigorous methods (Munro 2015). Evidence-based policy is focused on establishing whether there is a causal relationship between two or more variables in order to be able to make claims about “what works”. Were evidence-based policy to be regarded as a tree, one of its strongest branches would be evidence-based policing (EBP). This concept, which links police research and practice, was introduced by Sherman in the late 1990s (Sherman 1998, 2013). The process of EBP is circular, and involves the best research evidence being turned into guidelines that then guide an output

which generates an outcome. The experiences of this outcome are then fed back into research and the process starts again (Sherman 1998). If EBP was a recipe its key ingredients are three T's, i.e. targeting, testing and tracking (Sherman 2013). The triple-T strategy includes principles on allocating resources (targeting), on applying police methods to see whether they show the desired effect (testing) and on following up on the delivery and the effects of the tested method (tracking).

2.2.1 How do we know “what works?”?

The idea behind evidence-based policing is that practitioners are presented with methods that have been proven to yield the intended results. From an EBP-perspective, it is not enough simply to work in a “research-based” manner, because not all research equates with evidence, and not all evidence is created equal. To show what works, Sherman et al. (1998) used the Maryland Scientific Methods Scale (SMS), which is a tool for ranking studies according to their methodological quality. The scale consists of five levels ranging from 1 (weakest) to 5 (strongest). Studies that are deemed to be Level 1 or 2 on the SMS are generally not robust enough to be able to detect causal relationships, because they cannot rule out that their results were affected by other factors such as history, chance or selection bias. These studies include, for example, comparative studies without a comparable control group, or correlation studies. Sherman et al. (1998) deem a method to be “working” if it has been tested successfully in at least two Level 3 studies or one Level 4 or 5 study. The strictness of the definition of “what works” can vary to some extent, but in general there is consensus among EBP-advocates that randomised controlled trials and systematic reviews yield the most valid results when measuring causality (Munro 2015, Ariel 2018).

2.2.2 Criticisms of evidence-based policy

It should be noted here that not everyone is convinced of the advantages of EBP. While there is some scepticism from practitioners regarding the extent to which research can improve their work (which will be addressed later in this chapter), there is also criticism

from the academic field. Munro (2015) lists three common types of criticism that are directed at evidence-based policy.

Firstly, critics question whether principles from the natural sciences can be transferred to social science. This mainly concerns the philosophical question of whether objectivity can exist in the social sciences or whether the concepts being measured are shaped by the perceptions of those who construct them. Critics of evidence-based policy argue that researchers often come from a more privileged position in society than the subjects they are researching and that they can therefore never be unbiased. Claiming to be objective in the social sciences disguises this power imbalance.

The second type of criticism concerns the claim of evidence-based policy to produce universal knowledge. This type of criticism also relates to the critics' view that there is not just one objective reality, but rather that reality is context dependent and that what is real depends on who is asking and in what context. In the context of evidence-based policing, critics would for example argue that findings from rigorous studies conducted in the US should not direct policy decisions in Sweden because they are biased towards the US context. Critics of evidence-based policy also argue that the concept oversimplifies the implications of causality, because they view research in the field as being concerned with establishing or dismissing the existence of causality without explaining why results have been obtained.

This brings us to the third type of criticism presented by Munro (2015), i.e. that critics are concerned that the preference of evidence-based policy for rigorous quantitative methods (i.e. randomized controlled trials) limits the types of questions that are researched. By ranking different research methods, critics argue, evidence-based policy dismisses the results of qualitative research as being inferior.

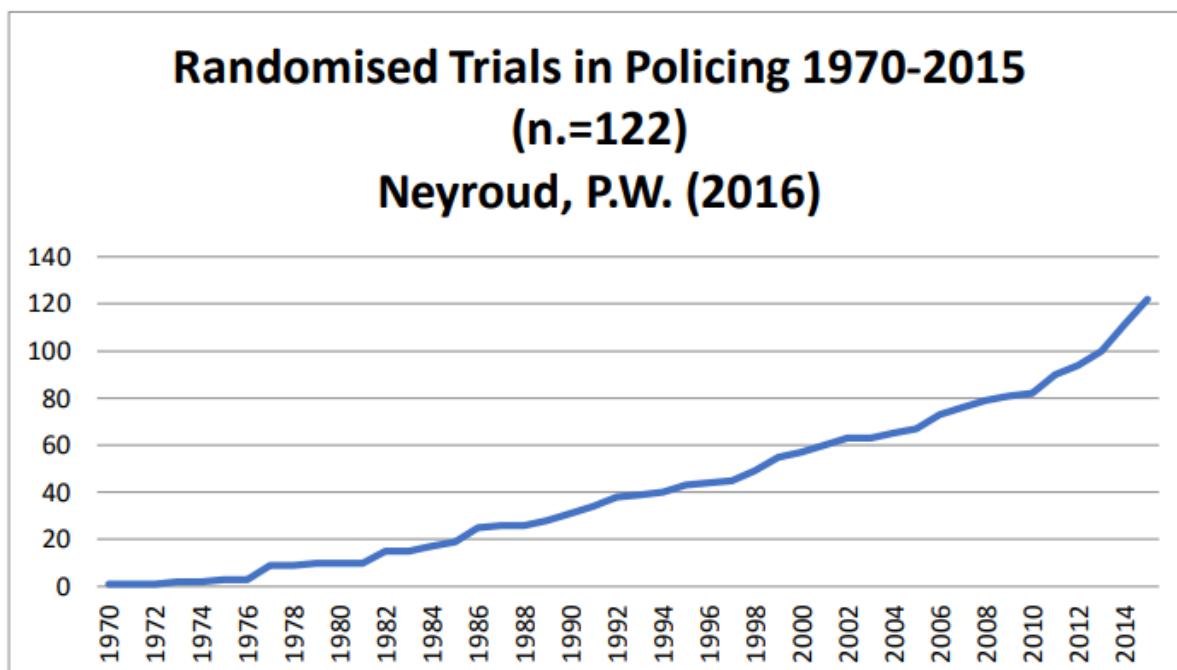
2.2.3 EBP on the rise

Even though evidence-based policy in the social sciences has been subject to criticism, it is on the rise and so is evidence-based policing (Sherman 2013). The rise of evidence-based policing can be assessed in several ways.

One indication that evidence-based policing is on the rise is the emergence of societies for evidence-based policing around the world. These societies are associations of practitioners and research professionals whose aim is to transform policing in their respective countries by fostering a greater focus on evidence-based policing in everyday police work. There are currently societies for EBP in the USA, Canada, New Zealand and Australia and the UK. At the 2018 International Conference on Evidence-based Policing, the former Director General of the Swedish National Council for Crime Prevention announced that efforts are being made to establish a Nordic Society of Evidence-based Policing (Wennerström 2018).

Another way of assessing the increasing interest for evidence-based policing is to look at the number of randomised controlled trials (RCTs) published in the field of policing. In his dissertation, Neyroud (2017) has shown that a substantial number of RCTs with a focus on policing have been published over recent decades, with the most dramatic increase being seen in the last five years of the period examined (Figure 1). Neyroud (2017) also found that there has been an overall increase in treatment integrity of the published RCTs. However, it should be noted here that all of these RCTs, with one exception, were conducted outside Sweden (Neyroud 2017, Magnusson 2018a). Even though one experiment is more than zero, it is not possible to speak of a rise in RCTs in the Swedish context.

Figure 1. Numbers of Randomised Controlled Trials in Policing published annually 1970-2015 by year of report (n = 122) (Neyroud 2017, p.77).



2.3. From research to practice

There are arguably a lot of signs indicating that evidence-based policing is becoming increasingly popular not only in the academic world but also among policy makers. As has been noted above, however, evidence-based policing involves not only the production of research but also the application of research results in practice. In this respect, those who have tried to bridge the gap between research and practice have encountered obstacles, and police research has not yet reached its full potential when it comes to informing daily police work (Bradley and Nixon 2009).

Other researchers have also acknowledged that there is a gap between research and practice. In their book “Evidence-based policing – Translating Research into Practice” Lum and Koper (2017) present three aspects of EBP that need to be considered when exploring this gap: 1) Translation of research 2) Receptivity to research and 3) The institutionalisation of research into practice. These are presented below.

2.3.1 Translating research into practice

Some have argued that researchers and practitioners speak different languages, and that to make research available it must therefore be translated into “digestible forms” (Lum and Koper 2017). Over recent years, a range of efforts have been made to translate research for practitioners. One is the EBP Matrix (Lum et al. 2011), a visualisation of available policing research on crime prevention, in which solid results are mapped in three dimensions: the target of the intervention, the specificity of the prevention mechanism and the level of reactivity or proactivity of an intervention (Lum and Koper 2017). According to Lum and Koper (2017), translation could facilitate police receptivity, which brings us to the next section.

2.3.2 Police receptivity to research

Receptivity to research among police professionals constitutes an important part of the bridge between research and practice. Lum and Koper argue that *“Police officer receptivity to empirical research and evidence-based policing is important to consider because officers are responsible for implementing approaches validated by research on the street.”* (2017 p.359).

Telep and Lum (2014) have examined the attitudes of police staff towards adopting an evidence-based approach to policing in several studies, all of which are based on surveys. The results from a survey conducted with officers across three police forces in the US suggest that officers have some knowledge about “what works”, but that they seldom take the initiative to look up research results themselves. Furthermore, the results suggest that while officers appreciate that there are benefits to working together with researchers, they still value experience over research as a guide to practice (Telep and Lum 2014).

A survey conducted among police executives produced similar results (Telep and Winegar. 2016). The results suggest that while police executives are mainly positive towards the idea of working in an evidence-based manner and think that all officers should have knowledge about the evidence from research, they also state that, in practice, their

agencies mainly rely on traditional methods. Furthermore, the results suggest that there also is room for improvement when it comes to police executives' knowledge of evidence-based methods.

In conclusion, there is emerging research on the link between research and practice, mostly from the US. More recently there have also been contributions on the topic from researchers in Canada (Blaskovits et al. 2018), the UK (Hunter and Hough 2017) and Israel (Jonathan-Zamir et al. 2019). In the Swedish context, however, the topic remains underexplored. The following sections propose how a study on the topic could be conducted in the Swedish context.

2.3.3 Institutionalization of research into practice

After translating research results into more digestible bits and take soundings of attitudes towards working research based the next step is to examine what it takes to change existing practice.

When Sherman coined the concept of EBP he also explained that there are serious challenges when it comes to getting practitioners to work in accordance with research evidence (Sherman 1998).

One of the reasons for this is that there is a smothering paradigm in relation to evidence-based policing within the police, meaning that police officers believe their experience and these beliefs have more weight than empirical evidence (Sherman 2015). This phenomenon is based on the misconception that evidence is intended to replace experience rather than complementing existing practices (Sherman 2015).

2.3.4 The difficulties of working in an evidence-based manner in the Swedish police

Over the past decade there have been several calls for the professionalisation of police work, particularly in relation to crime prevention. In 2010, the Swedish National Audit Office criticized the Swedish police for not using knowledge-based methods when working with crime prevention (RiR 2010). Similarly, the Swedish National Council for Crime

Prevention (Brå) concluded in a report on a substantial investment in the police that while there had been an increase in documented crime prevention efforts, the quality of these efforts left something to be desired (Brå 2013). Since these reports, the government and the police have taken a number of steps towards professionalisation.

The Swedish Government's appropriation directions to the police in 2018 explicitly stated that the police should work towards the goal that all policing is based on knowledge and tested experience, complemented by research (Regeringen 2017, 2018). In the instructions for 2019, this demand was removed but the instructions instead included a call for the work of crime prevention to be research-based to a greater extent (Regeringen 2019). Brå's most recent report on crime prevention in Sweden also includes calls for working more with innovations, evaluating crime prevention methods and measures and for collaborations with universities and other research institutes (Brå 2019). The importance of evaluation is also stressed by the Swedish criminologist Jerzy Sarnecki (2019). In his report "Stöta på patrull", in which Sarnecki looks at to what extent Swedish police are working according to the principles of problem-oriented policing, he concludes that the Swedish police still do not evaluate their work enough.

The calls for professionalization do not seem to have been answered yet. Brante et al. (2015) conducted a survey with respondents from several occupations in Sweden asking them whether their work is guided by research. From the results of the survey the authors concluded that compared to other occupations police officers are least likely to work research-based.

Even though the term EBP is not always mentioned explicitly in the Swedish context, the concept fits into the larger picture of a professionalised police force.

2.4 Street-level bureaucracy – a theory for understanding policy implementation

Magnusson (2018b) suggests that for examining the gap between research and practice one should also take into account another possible gap, i.e. the one between police practice and police policy. Street-level bureaucracy (Lipsky 1980, Lipsky 2010) is a theory that offers some possible explanations to why research based methods have not made a bigger impression on Swedish police practice even though it is advocated by powerful agencies.

Lipsky (1980, 2010) theorized that all government policy is eventually implemented by those he calls street-level bureaucrats. Street-level bureaucrats are civil servants in the public sector such as teachers, nurses, social workers and also police officers. It is important to remember that not all civil servants are automatically street-level bureaucrats, the defining factor is whether they have direct contact with members of the public in the context of their work. Analysts in the public sector, for example, are not considered to fit this definition since their work is conducted “backstage”.

While political and administrative officials provide the framework in which street-level bureaucrats work, Lipsky (1980, 2010) theorizes that policy is made by civil servants in the lower ranks of their organisations. According to this theory, the implication would be that the Swedish government can make efforts to professionalise the police on a macro level, but for their efforts to succeed it is vital to get frontline police officers on board. This notion is also supported by several frameworks for implementation (e.g. Fixsen et al. 2005, Meyers et al. 2012).

When considering street-level bureaucrats as policy makers, there are two factors to consider, i.e. their relatively high levels of discretion to carry out their work and their relative autonomy from organisational authority (Lipsky 1980, 2010). It might seem strange to some to apply this theory in a police context because the police are highly

regulated by rules and legislation and bear the characteristics of a highly hierarchical organisation. However, Lipsky (1980, 2010) argues that for police officers, high levels of discretion are inevitable because the legal framework does not always mirror the complex context in which officers operate. Lipsky (1980, 2010) also argues that a hierarchical organisation alone is not sufficient to ensure that policy is implemented if lower level workers do not agree with the objectives of their superiors. When they disagree with these objectives, workers can use different strategies to withhold cooperation (e.g. not working, showing negative attitudes towards the organisation) which may in turn have negative effects on the police organisation as a whole.

2.4.1 Who are the street-level bureaucrats of the Swedish police?

Almost half of all police work in Sweden involves frontline police work. This includes reconnaissance, crime prevention and intervention activities (Brå 2013). The group of police who carry out most of the visible police work are called *ingripande poliser*. Literally this means *intervention police officers* based on the fact that their main task is reactive, since they answer calls from the response centres and intervene when they encounter crime and disorder. For the purpose of this thesis, intervention police will be referred to as frontline police officers if not stated otherwise. It should be noted that there is no formal description of the tasks that Swedish frontline officers have. This means that each individual frontline officer has high levels of discretion with regard to how his or her work is carried out. At times when the number of emergency calls is low, the response teams are supposed to carry out self-initiated crime prevention activities. The problems that can be targeted are defined in advance by the officers' supervisor but it is up to the individual officers to assess whether a certain method is adequate in a certain situation.

2.5 Summary

In recent years, the calls from the Swedish government to professionalise the Swedish police force have become stronger.

Currently, the most common definition of police research employed in Sweden is relatively broad. Evidence-based policing is a research concept that is of practical significance for police officers because it is mainly concerned with the direct effects of police work.

While on the rise internationally, the concept of evidence-based policing is as yet not very well established in Sweden and has been met with some criticism. Previous research found that in the majority of police organisations, experience is favoured over evidence. One way of exploring obstacles towards working in an evidence-based manner is to examine officers' attitudes towards working in accordance with research findings. Studies on officer receptivity to research are still limited and the majority of studies have been conducted in the US.

This thesis could contribute to better understand the current opinion among frontline police officers in urban areas in Sweden. Street-Level Bureaucracy theory can help develop our understanding of why police officers' attitudes towards guidelines and targets have important implications for the implementation of results from evidence-based policing research. Results from the current study could provide decision-makers with valuable information on their way to a more professional police organisation. Furthermore, the thesis could inspire researchers to further look into the field of receptivity to and implementation of research.

3.0 Methods

This chapter describes the study design and is divided into five sections. The first section describes the setting in which the study has been conducted and how the participants were selected. The second describes the study's data source, i.e. a group-administered survey, the data collection process and the response rate. In the third section, key measures are explored for the descriptive and the background variables. The third section also includes a description of how the survey was validated. The fourth section briefly describes the choice of analytical method, while the final section presents a summary of the Methods chapter.

3.1 Setting: Two local police areas in Stockholm

3.1.1 Sampling

The survey has been conducted in two adjacent local police areas in the municipality of Stockholm, Globen and Södermalm.

There are two reasons for choosing the sample frame. The first is that the areas need to be large enough to contain a population of frontline police officers that it is sufficient for the purposes of a meaningful quantitative analysis. The largest numbers of police officers are found in larger cities. Stockholm is the capital of Sweden and the municipality of Stockholm is the largest municipality in Sweden. Approximately one-tenth of Sweden's population live in Stockholm, and the municipality of Stockholm is the second most densely populated municipality (SCB 2019). The Stockholm police region, with its 5040 police officers, is also the largest of Sweden's seven police regions. In 2018, female officers accounted for 34 percent of the police officers in the region (Polisen 2019).

The second reason for choosing these areas relates to the issue of the generalizability of the research findings presented in the survey-questionnaire (see below section 3.3.1.1 Included research). These research results were obtained in large urban areas and

questions have been raised as to whether they might also apply to smaller settings and less densely populated areas (Hinkle et al. 2013).

3.1.1.1 Globen

From an organisational perspective, Globen belongs to the southern part of the police region of Stockholm (police area Stockholm Syd). The local police area of Globen is a typical Swedish suburban area consisting of three boroughs with a population of around 100,000. The area consists of several so called ABC-zones. ABC is a zoning concept used in Swedish town planning and stands for arbete (work), bostad (dwelling) and centrum (small town centre).

Some of the characteristics of the area that have implications for police work are that it contains a large traffic network consisting of motorways and public transport routes, including Sweden's fourth biggest traffic junction, two socially disadvantaged areas with rival criminal networks, one nightlife area, and two stadiums that regularly host large events. Drug offences and outdoor violence are the most common types of offences to which frontline officers respond. Other common offence types in the area are theft and vandalism. In recent years, the local police area of Globen has also become a more frequent scene of shootings in the criminal milieu.

3.1.1.2 Södermalm

From an organisational perspective, Södermalm belongs to the central part of the police region of Stockholm (police area Stockholm City). The local police area is located in the borough Södermalm and covers the islands of Södermalm and Gamla Stan in the inner city of Stockholm. The borough has around 130.000 inhabitants and in addition there are several hundred thousand people visiting Södermalm every day for various reasons (e.g. for work, as tourists or for health care)¹. The borough consists of dwellings (mainly apartment blocks), shopping areas (shopping centres and small shops), tourist attractions,

¹ This is a rough estimate based on information from Södermalm police and estimates of Stockholm Public Transport that in 2018 there were 850,000 commuters in Stockholm County any given day (SL 2018).

health care, parks and night-time economy. These characteristics affect the type of problems frontline police officers' work in Södermalm routinely deal with. These are substance abuse, outdoor violence, traffic incidents, domestic burglary and pick-pocketing.

3.2.1 Respondents

In each of the local police areas, frontline officers are organized in several intervention teams (turlag or planeringslag). Each intervention team is in turn divided into groups of frontline officers, each of which has a supervisor.

3.2.1.1 Frontline police officers

Frontline police officers are uniformed and armed and work in response teams of two officers. Response teams dedicated to crime prevention activities can also consist of three officers (see also section 2.4.1 Who are the street-level bureaucrats of the Swedish police?).

3.2.1.2 Supervisors in intervention work

Supervisors' tasks in intervention work include managing operations and staff.

Supervisors are responsible for ensuring that their group works towards the goals set by the local police areas. They are responsible for staffing, i.e. ensuring that enough frontline officers are available for each shift. Supervisors lead operations in the field during their shift and can also be part of a response team. Their staff responsibilities include carrying out performance reviews and salary reviews with their team.

3.2 Source of data: Survey

3.2.1 Research instrument

The research instrument used in this study is a group-administered self-completed survey. A self-completed survey is a form of a structured interview in which the researcher does not pose the questions directly to the respondents. Instead, the respondents fill in a form that contains the questions that the researcher is interested in, i.e. a questionnaire

(Bryman 2002). An English translation of the questionnaire is presented in the appendices (A. Questionnaire – English Translation).

Police officers and their supervisors in two local police areas constitute a suitable population for group-administered surveys because they form an existing natural group of respondents that can be approached fairly easily; they form a captive audience (de Leeuw and Hox 2008). The choice of using a captive audience as respondents is more time consuming for the researcher, but it also yields a substantially higher response rate than other distribution methods that were considered, e.g. an online survey, email survey or postal survey (Bachman and Schutt 2007). Additionally, this approach allows the researcher to have some control over the setting in which the data are collected, e.g. respondents filling in the survey individually and under the same circumstances (Bachman and Schutt 2007).

3.2.2 Data collection process

In order to obtain access to the survey population, the researcher contacted two people who could be defined as gatekeepers. One is a former police chief in one of the areas, the other is a supervisor for a response team in the other area.

In Södermalm, the researcher was invited to attend a staff meeting with the supervisors. At this meeting, the researcher explained the purpose of the study, how the survey would be conducted, what was expected of the supervisors and how much time it would take from the respondents' routine work. The supervisors also received the researcher's contact details and an offer that the results would be presented to them once the study had been completed. The survey-questionnaire was then distributed to each of the supervisors. The purpose of this was two-fold. Firstly, because the supervisors also work operationally, they constitute part of the research population. Secondly, having the supervisors complete the survey before it was distributed to their frontline officers was a way of creating legitimacy for the survey. All of the supervisors completed the survey and

the researcher scheduled meetings with the different response teams for the subsequent data collection.

In the Globen area, the researcher was not able to meet with the supervisors prior to the data collection. Instead, the supervisors were approached through the gatekeeper, who helped distribute the information about the study and suggested suitable dates for meeting the response teams.

In both areas, the researcher then met with each of the teams when they had a planning day. These occasions were chosen because it is mandatory for police officers to attend them, and they bring the entire team together in a single room. Each of the meetings started with the researcher introducing herself, explaining the purpose of the study and stating her independence of the police organisation. When pre-testing the survey, the researcher had received feedback that it was tempting for police officers to answer whether or not they “liked” a given finding instead of answering whether it was useful to them or not. To decrease this risk, the researcher thoroughly explained each of the three questions that are asked in relation to each statement in the survey before handing out the questionnaire. The researcher also explained that all of the research results presented in the survey are from studies that have maintained high levels of scientific quality and that they can therefore be considered to be sound. At the end of each meeting, the researcher thanked the respondents for their participation and gave them her contact details in case they had any further questions.

The data were collected on six occasions between May 23rd, 2019, and June 13th, 2019.

3.2.3 Response rate

The surveyed population consists of 132 individuals. Of the 114 respondents who received the survey, 113 completed it resulting in a response rate of 86 percent. A response rate over 80 percent is rare and the advantage of a high response rate is that it reduces the risk of the results being affected by systematic non-response (Frankfort-

Nachmias & Nachmias 1996). There is a risk for non-response bias if the non-respondents are substantially different from the respondents (Frankfort-Nachmias & Nachmias 1996). To minimize the risk of systematic non-response, the researcher chose to distribute the survey to a captive audience. The survey was collected when police officers had their monthly planning days, at which their attendance is mandatory. According to the officers' supervisors, the principal reasons for people being absent were sickness, taking care of sick children or being on holiday. The main reason for non-response hence is non-contact and not refusal. To increase the response rate, the supervisors received questionnaires equivalent to the number of absentees with the request that these be distributed. In total, ten of these surveys were then returned to the researcher at a later date and make up less than a tenth of the total number of 113 responses.

It should be mentioned here that one shortcoming of the study is that the characteristics of the non-respondents are unknown. It is therefore not possible to entirely rule out the possibility that the survey non-response may be systematically biased. However, since the response rate is high and the non-response is mainly due to factors that appear to be unrelated to the topic of the survey, it is likely that the responses collected mirror the opinions of the surveyed population.

3.2.3.1 Item non-response

The survey consists of 54 items, 42 items measure the descriptive variables (usefulness and knowledge) and 12 items measure background variables. Ten of the items measuring the descriptive variables and four of the items measuring the background variables lack one response each. Two of the background variables lack four and five responses respectively. There are two explanations for the relatively high non-response on these items. One is that both items were printed on the back of the questionnaire, meaning that some respondents might simply have missed them. The other explanation concerns the nature of the questions examined by the items. One of the questions asked whether

respondents wanted more information about the research results presented in the survey, while the other asked whether the respondent would be willing to participate in an interview following the survey. In these cases, the non-response might be interpreted as a negative answer. However, it seemed more sensible to code the non-response as missing. For more detailed information on item non-response see the appendices (B. Item non-response).

3.3 Key measures

3.3.1 Descriptive variables

The purpose of this study is to describe the perceived usefulness of selected research results for police officers, and their previous knowledge about these results. This section will briefly describe the research results presented to the respondents. This is then followed by a description of how the concepts of usefulness and previous knowledge have been defined and measured.

3.3.1.1 Included research

A list of 15 findings from police research was developed by Professor Lawrence W. Sherman in consultation with Dr. Timothy Coupe, a lecturer in Criminal Justice Management at the University of Cambridge. The list contains results from the field of evidence-based policing regarding different aspects of police work. Five of the results concern research implications for targeted patrolling. Four results concern domestic violence (DV). Two of the results relate to the concept of “power few”, i.e. the limited number of places and victims that produce the greatest amount of harm. Another two results regard the effects of restorative justice conferences. One result concerns the effect of police interactions on citizens’ perceptions of the police. Another one concerns the possibility of predicting the occurrence of lethal knife attacks.

Each result was then condensed into one or two sentences and translated into Swedish. The condensed versions were then sent to Professor Sherman and Dr. Coupe for

validation. Table 2 contains the condensed version of each result with a reference to the study from which it was taken.

Table 2. A list of 15 research findings from police research as identified by Professor Lawrence Sherman

Short version	Survey version
Targeted patrolling - 15 minute rule	It is not necessary to patrol hot spots for longer than 10 to 15 minutes at a time. Patrolling a hot spot for longer than this does not increase the deterrent effect (Koper 1995).
Targeted patrolling - firearms	Targeted patrolling of places with high levels of firearm assaults reduces firearm assaults substantially in those places, without any displacement of crime to surrounding areas or times (Rosenfeld et al. 2014).
Targeted patrolling - no displacement	Targeted patrolling of hot spots does not lead to the displacement of crime to neighbouring areas (Weisburd et al. 2006).
Targeted patrolling - reduces crime	Targeted patrolling of hot spots reduces crime and disorder in these areas (Sherman and Weisburd 1995, Braga et al. 2012).
Targeted patrolling - residual deterrence	The residual deterrence of targeted patrolling lasts for four days after police leave a crime hot spot. After that, crime levels increase substantially in the targeted location (Barnes et al. under publication).
DV - Cara	Fewer men reoffend against partners and reoffenders cause less harm to victims when mandated to attend charity-run Cautioning and Relationship Abuse (CARA) workshops (Strang et al. 2017).
DV - short-term effects of arrest	Partner arrests for domestic assault reduce the victim's risk of being re-victimized by the same offender up to six months after the arrest (Sherman 1992).
DV - long-term effects	Partner arrests for domestic common assault apparently increase premature death among their female victims, especially African-American women (Sherman and Harris 2015).
DV - suicide warning marker	One warning marker of serious domestic abuse may be suicidal ideation or threats of self-harm by an offender (Thornton 2017, Rye and Angel 2019).
Power few - Places	Crime is not randomly distributed between different places but is heavily concentrated to certain delimited places (so-called hot spots) (Sherman et al. 1989, Weisburd 2015).
Power few - Victims	Less than 4 percent of victims suffer 85 percent of the victim harm in a given area (Dudfield et al. 2017).
RJC - PTSS	A meeting between an offender and a victim led by a police officer can lead to a short-term reduction in symptoms of PTSS in the victim (Sherman et al. 2005).
RJC - Reoffending	A meeting between an offender and a victim led by a police officer can lead to an initial reduction of repeat offending in offenders (Sherman et al. 2015).
Citizen perception	Citizens' perceptions of the police are influenced by the way in which police interact with citizens during routine encounters e.g. breath tests (Mazzerolle et al. 2012).
Knife Crime	The majority of knife homicides take place in neighbourhoods which have previously been subject to non-lethal knife attacks (Massey, Sherman, Coupe 2019).

3.3.1.2 Perceived usefulness

The first part of this study's research question focuses on police officers' opinions regarding the fourteen results from police research presented above. In this study, the opinions in focus are the extent to which police officers perceive the results from selected EBP studies as being useful. The concept of the usefulness of each research result is measured using two items.

1. To what extent do you consider the following result useful for your daily work as a police officer?

2. To what extent would you like this result to be taken into account when frontline work is being planned?

The reason for using two questions is that there are different dimensions of usefulness that could affect the results. Some of the fourteen results presented to the respondents are useful in a practical sense; they are workable and can directly be applied by the individual officer (Item 1). One example of this is that an officer can choose to patrol a hotspot for a certain amount of time. Other results cannot directly be applied by the individual officer. However, they can direct police work at a strategic level, e.g. when resources are being allocated (Item 2). One example of this is the "power few" of places or victims.

It should be noted here that the items only measure how the officers feel about each result and not whether or not they would actually use the research finding in the future.

To answer the questions, the respondents are provided with a Likert-scale. Likert-type responses involve an even or uneven number of ranked fixed-alternative expressions (Frankfort-Nachmias & Nachmias 1996). The scale used in the survey is a unipolar scale, since each item has five fixed alternative expressions ranging from "Not at all" to "To a very great extent" (Persson 2016). All of the scale points were labelled because results from research indicate that this increases the reliability of the scale (Menold et al. 2014).

3.3.1.3 Previous knowledge

The respondents' previous knowledge of each research result was measured using one item.

3. To what extent were you familiar with this result before you were given this questionnaire?

The respondents were provided with the same unipolar scale as for the items concerning usefulness.

3.3.2 Background variables

In this section the background variables from the survey are described on the basis of the questions used to measure them and their measurement level.

3.3.2.1 Age

To measure the respondents' age they were asked to state the year in which they were born at the end of the survey. Their age was then calculated by subtracting the year of birth from the year in which the survey was conducted, i.e. 2019. The resulting age variable is thus a ratio variable.

3.3.2.2 Gender

The respondents were asked "What is your gender?" and were provided with three fixed response alternatives, i.e. female, male and other. Gender is a nominal variable.

3.3.2.3 Years of Service

The respondents' practical experience of police work was measured in years of service. Similarly to age, years of service were measured by asking the respondents in which year they had been employed by the police. Their experience in years was then calculated by subtracting the year of employment from the year in which the survey was conducted. Experience is measured on the ratio level.

3.3.2.4 Educational background

To measure educational background, the respondents were asked what their highest level of completed education was. The respondents were then presented with five fixed alternatives ranging from compulsory schooling to more than three years of university or college education. Educational background is an ordinal variable.

3.3.2.5 Position

The first question of the survey asked the respondents about their current position in the Swedish police. They were provided with five fixed alternatives and one open alternative. The latter option was provided in case the previous alternatives did not cover all of the positions held by the respondents. There is an element of order in the data on the respondents occupational positions, since a frontline police officer holds a higher position than a police trainee and a team leader holds a higher position than a frontline police officer. However, some of the other alternatives cannot as easily be put in order and for this reason the position variable is nominal.

3.3.3 Validation of the survey

Bachman and Schutt (2007) list several pitfalls in the construction of survey questions, which include unclear questions, non-mutually-exclusive responses and response categories that are not exhaustive. All of these are important to consider as the survey is self-completed and, by contrast with the use of interviews, questions and response categories cannot be altered or explained during data collection. To avoid these pitfalls the questionnaire was tested on four people, two police researchers and two officers, before the survey was conducted with the chosen population. Most of the feedback concerned the wording of items and clarifications of the content of the presented results. While the feedback from the researchers was more concerned with the construction of the questions, the officers' feedback mostly concerned the content of the presented results. The validation of the questionnaire resulted in minor changes, with one exception.

One of the police officers who reviewed the questionnaire said that the result about long-term effects of arrests on African-American women in domestic violence cases upset him so much that he almost wanted to stop answering the remaining questions because he questioned whether they were true. The officer provided two explanations for his reaction. The first reason was that it seemed obvious to the officer that the result had not been tested in a Swedish context and he therefore questioned its relevance in the Swedish context. The second reason, the officer stated, was that the result “contradicts everything I believe in as a police officer and I therefore find it difficult to accept. I might change my mind if someone could explain to me why this result was obtained.”

The other individuals on whom the survey was tested also reacted to that particular result, although not as strongly. Eventually, following consultations with my supervisors, the result on long-term effects of arrest in domestic violence cases was excluded. The main reason for this was that retaining the item risked affecting the responses to the other items and jeopardizing the response rate.

3.4 Data analysis

The survey results have been manually coded by the researcher and transferred to the software IBM SPSS Statistics. All fixed responses have been assigned numerical values.

In the next chapter, the results will be presented using descriptive statistics, i.e. frequencies and valid percentages. Typical values for ordinal variables will be described using the median. Ratio level variables, age and years of service, will be described using the mean.

To examine the relationship between each of the descriptive variables and each of the ratio-level background variables, Spearman's rho will be employed. This is because the dependent variables are measured at the ordinal level.

To detect possible differences between groups each of the ordinal level background variables is recoded into a dichotomous variable. Responses on the descriptive variables

are then compared between the two categories in each variable using median comparison.

4.0 Findings

This chapter presents the results of the survey conducted with frontline police officers and their supervisors in two local police areas in Stockholm.

The chapter is structured in the following way. The first part of the chapter is focused on describing the population in terms of the background variables and their responses on the descriptive variables, i.e. perceived usefulness and previous knowledge. The second part examines whether there are differences between different subgroups in the population.

The chapter concludes with a summary of the findings.

For reasons of readability, the research results from the survey are presented in an abbreviated form in this chapter. It is therefore recommended to have Table 2 from the methods chapter at hand when reading (see 3.3.1.1 Included research).

4.1 Descriptive statistics

4.1.1 Background variables - What does the population look like?

As is shown in Table 3, the majority of the respondents (79.6 percent, N = 113) are frontline police officers, 13.3 percent are supervisors and the remaining 7.1 percent are comprised of community police officers or “other” in equal parts.

Table 3. Characteristics of the surveyed population (nominal and ordinal background variables)

	N (%)
Position	113 (100)
Frontline Officer	90 (79.6)
Supervisor	15 (13.3)
Community police officer	4 (3.5)
Other	4 (3.5)
Gender	113 (100)
Female	35 (31.0)
Male	77 (68.1)
Other	1 (0.9)
Formal police training	113 (100)
Yes	113 (100)
No	0 (0.0)
Education	112 (100)
Upper Secondary School	72 (64.3)
University or college education < 3 years	27 (24.1)
University or college education > 3 years	13 (11.6)
Local police area	113 (100)
Globen	42 (37.2)
Södermalm	71 (62.8)

A little over two-thirds (68.1 percent) of the respondents are male, 31.0 percent are female and 0.9 percent responded “other”. All respondents have answered that they have undergone professional police training. A little over one-tenth of the respondents (11.6 percent) have in addition to this completed higher education equivalent to 3 years or more of university or college education. The remaining respondents state that their highest level of education, besides formal police training, is upper secondary school (64.3 percent) or a university or college education of less than 3 years (24.1 percent). The majority of the questionnaires were collected from the Södermalm police district (63 percent) and the remaining questionnaires (37 percent) were collected from the Globen police district.

Table 4. Characteristics of the surveyed population (continuous background variables)

	Age (N=113)	Years of Service (N=112)
Mean	33.7	6.1
SD	6.45	5.38
Median	32.0	4.5
Min	24	0
Max	54	29
Percentile		
25	29.0	3.0
75	36.5	9.0

Table 4 shows that the average age of the respondents is 33.7 years. The youngest respondent is 24 while the oldest is 54. Three quarters of the population are 36.5 years or younger, while half of the population is 32 years or younger (Md= 32). The respondents' average experience, measured in years of service, is 6.1 years. The longest serving officer has 29 years of service while the most junior respondents started their service in 2019, the same year that the survey was conducted. Three quarters of the population have 9 years of experience or less, while half of the respondents have been in service for 4.5 years or less (Md= 4.5).

4.1.2 Perceived usefulness

The perceived usefulness of the research results from police research presented in the questionnaire has been assessed by asking two questions about each of the research results included in the survey. The respondents were asked to provide their answers on a 5-point scale. Table 5 presents the scale categories and the corresponding numerical values used in the analysis.

Table 5. Scale categories and corresponding numerical values

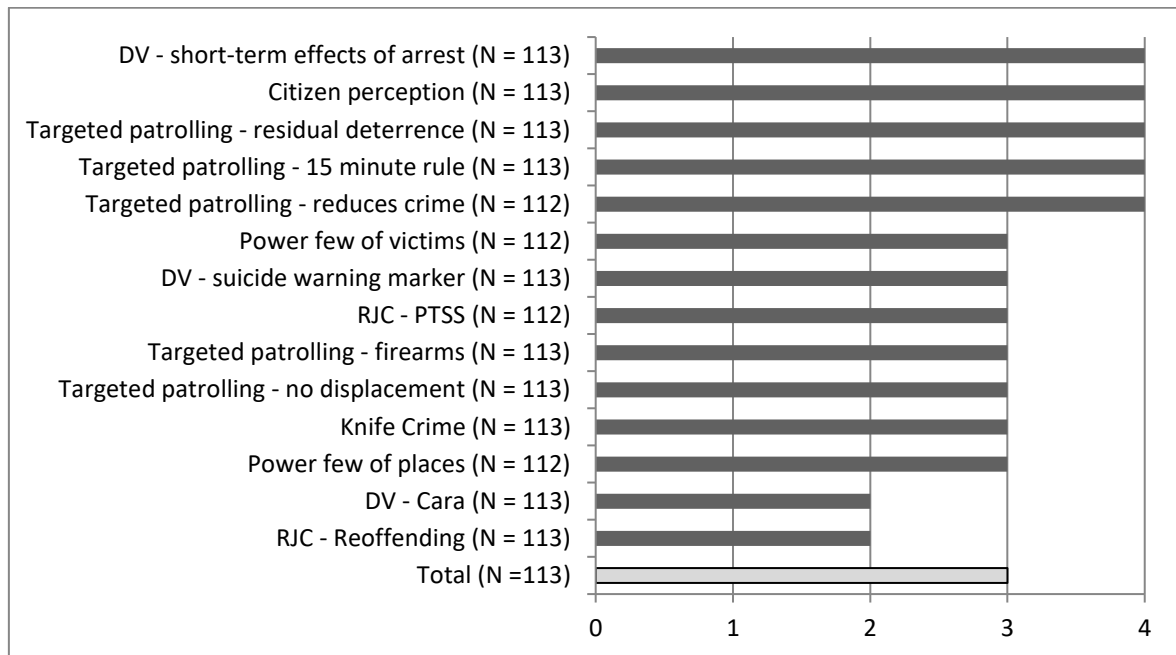
Scale category	Numerical value
To a very great extent	4
To a great extent	3
To a small extent	2
To a very small extent	1
Not at all	0

The following sections will first describe the results for the question concerning practical applicability of the research findings. The subsequent section will describe the results for the question concerning the research findings' strategic relevance.

4.1.2.1 Perceived practical applicability

The first question is: "To what extent do you consider the following result useful for your daily work as a police officer?" The overall median response to how useful the results are perceived as being for the respondents' daily work is $Md = 3$, which equals the response "to a great extent". A moderate negative skew ($\gamma_1 = -0,466$) indicates that responses are clustered around the higher values, i.e. the more positive values on the scale.

Figure 2. Median responses regarding 14 results from police research to the question: “To what extent do you consider the following result useful for your daily work as a police officer?”



As is shown in Figure 2, the median responses for the presented research results range from Md = 2 (To a small extent) to Md = 4 (To a very great extent). In the following, the results will be grouped according to their median responses from highest to lowest.

Results perceived to have practical applicability to a very great extent

According to the respondents, there are five research results that have the highest levels of practical applicability. Three of these concern the effects of targeted patrolling, i.e. that targeted patrolling reduces crime, the residual deterrence effect of targeted patrolling and the fact that targeted patrolling does not have to last longer than 15 minutes to achieve a deterrent effect. The other two results that are perceived as the most useful are that arrests for common domestic assaults reduce the risk of re-victimisation and that police interactions during routine encounters influence citizens' perceptions of the police. All of these research results have a median response above the overall median (Md = 4, useful to a very great extent) and are heavily skewed towards the higher values (Table 6). At most a few respondents questioned the usefulness of each of these results for the daily work of police officers.

Table 6. Research results that respondents rated to be applicable in their daily work as police officers to a very great extent (Md = 4)

Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great extent (%)	y1
Targeted patrolling – reduces crime (N=113)	0.9	0.9	1.8	33.0	63.4	-2.211
Citizen perceptions (N=113)	0.9	2.7	6.2	31.0	59.3	-1.744
DV – short-term effects of arrest (N=113)	2.7	5.3	4.4	31.0	56.6	-1.771
Targeted patrolling – 15 minute rule (N=113)	0.0	2.7	3.5	36.3	57.5	-1.490
Targeted patrolling – residual deterrence (N=113)	1.8	6.2	8.8	31.0	52.2	-1.407

Results perceived to have practical applicability to a great extent

There are seven research results that the respondents deem to have the second highest level of practical applicability (table 7). For all of these results, the median response showed that they are perceived as being useful in the daily work of police officers to a great extent (Md = 3). This category contains two results that concern targeted patrolling, i.e. that the targeted patrolling of hot spots does not lead to the displacement of crime to neighbouring areas and that targeted patrolling reduces firearms offences in a given place without producing a geographical or temporal displacement effect. Another research result in this category is that suicidal ideation or self-harm by an offender constitutes a warning marker for serious domestic abuse. The responses for these three items are also heavily skewed towards the positive response values.

Table 7. Research results that respondents rated to be applicable to a great extent (Md = 3) in their daily work as police officers

Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great extent (%)	y1
Targeted patrolling – no displacement (N=113)	1.8	6.2	15.0	42.5	34.5	-0.977
Targeted patrolling – firearms (N=113)	0.0	3.5	10.6	40.7	45.1	-0.971
DV – suicide warning marker (N=113)	1.8	5.3	18.6	35.4	38.9	-0.910
Knife Crime (N=113)	1.8	7.1	25.7	44.2	21.2	-0.593
Power few – places (N=112)	0.0	0.0	7.1	46.4	46.4	-0.505
Power few – victims (N=112)	1.8	12.5	25.9	38.4	21.4	-0.424
RJC – PTSS (N=112)	10.7	17.0	21.4	25.9	25.0	-0.339

Two of the items in the group with the second highest level of applicability are moderately skewed towards the positive responses. Overall the respondents rate these items as useful but not as unambiguously so as the results presented above. One of these items is the result that the majority of knife homicides take place in neighbourhoods that have previously been subject to non-lethal knife attacks. The other item concerns the concept of the power few of places, i.e. that crime is concentrated to certain places. This category also contains two items that were assessed even more ambiguously by the respondents. One of these items is the result on the power few of victims, i.e. that harm is concentrated among certain victims.

The other item is the result that restorative justice conferences (RJC) can lead to a short-term reduction in post-traumatic stress symptoms (PTSS) in the victim. Here the skewness values indicate that the distribution of responses among the response categories is fairly symmetrical. However, more than half of the responses are concentrated in the two highest categories. Similarly to the research items that received the highest median ratings (as described in the section above), there were at most a small number of respondents who perceived the results to be not useful at all for daily police work, with one exception. One-tenth of the respondents do not think that the result indicating that RJC reduces PTSS in victims is useful in their daily work.

Results perceived to have practical applicability to a small extent

Two of the 14 research results were deemed by the respondents to be applicable to a small extent (Table 8). The first of these items is the result that restorative justice conferences (RJC) can initially reduce the risk for re-offending in an offender. The distribution of responses regarding practical applicability for this item is similar to that for the other item concerning RJC. However, in this case the responses are not as heavily concentrated to the two highest response categories. Thus the median is lower for the result on the risk of re-offending.

The second item in this category is the result that fewer men reoffend against partners and that reoffenders cause less harm to victims when mandated to attend charity-run Cautioning and Relationship Abuse (CARA) workshops.

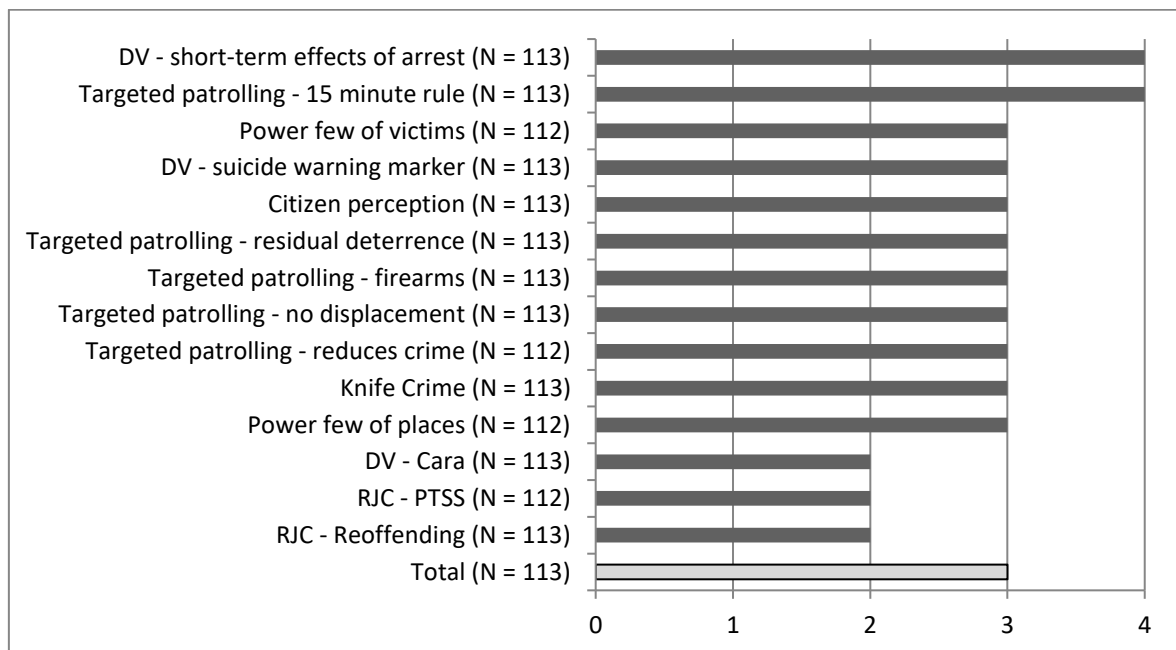
Table 8. Research results that respondents rated to be applicable to a small extent (Md = 2) in their daily work as police officers

Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great extent (%)	γ_1
RJC – Reoffending (N=113)	9.7	14.2	28.3	29.2	18.6	-0.350
DV – Cara (N=113)	7.1	15.0	30.1	25.7	22.1	-0.290

4.1.2.2 Perceived strategic relevance

The second question the respondents answered for each of the research results is “To what extent would you like this result to be taken into account when frontline work is being planned?”. The overall median response for the strategic relevance of the research results for frontline police work is Md = 3, which equals the response "to a great extent". A slight negative skew ($\gamma_1 = -.275$) indicates that results have a tendency to cluster around the positive values.

Figure 3. Median responses for 14 results from police research to the question “To what extent would you like this result to be taken into account when frontline work is being planned?”



As shown in Figure 3, the median responses for the presented items range from Md = 2 (To a small extent) to Md = 4 (To a very great extent). In the following the results will be grouped according to their median responses from highest to lowest.

Strategic relevance to a very great extent

There are two items that have an overall median of Md = 4 (Table 9). The first of these concerns the result that targeted patrolling does not have to last longer than 15 minutes to achieve a deterrent effect. All of the respondents believe that the 15 minute rule should be considered to at least some extent when frontline police work is being planned. The second item that is perceived as being of highest strategic relevance is the result that arrests for common domestic assaults reduce the risk for re-victimisation. These two items scored high even on the question of their practical applicability (see section 4.1.2.1. Perceived practical applicability).

Table 9. Research results that respondents want to be taken into account to a very great extent (Md = 4) when frontline police work is being planned

Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great extent (%)	y1
Targeted patrolling – 15 minute rule (N=113)	0.0	0.9	4.4	44.2	50.4	-0.890
DV – short-term effects of arrest (N=113)	3.5	7.1	8.8	25.7	54.9	-1.423

Strategic relevance to a great extent

There are nine research results that the respondents feel to be of strategic relevance to a great extent (Table 10). One of these is the result on the geographical concentration of crime, i.e. the power few of places. This item's high negative skew indicates that the responses are concentrated in the most positive response categories, which can be confirmed by looking at the percentages. 94.6 percent of the respondents believe that this research result is strategically relevant when planning frontline police work to either a great or very great extent. Another item that is heavily skewed towards the higher response categories is the research result on the residual deterrence effect of targeted patrolling. 84.1 percent of the respondents believed this research result to be of strategic relevance to a great or very great extent.

The responses for five of the items are more moderately skewed towards the positive values. These items include the result that interactions in routine encounters influence citizens' perceptions of the police, the three remaining results on targeted patrolling (no displacement, reduction of crime in general and the reduction of firearm assaults specifically), and the result that non-lethal knife crime attacks in a specific area precede knife homicides in the same area.

Table 10. Research results that respondents want to be taken into account to a great extent (Md = 3) when frontline police work is being planned

Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great extent (%)	y1
Power few – Places (N=112)	0.9	0.9	3.6	58.9	35.7	-1.323
Targeted patrolling – residual deterrence (N=113)	0.9	3.5	11.5	37.2	46.9	-1.202
Citizen perception (N=113)	0.0	4.4	15.9	37.2	42.5	-0.782
Targeted patrolling – no displacement (N=113)	1.8	3.5	22.1	44.2	28.3	-0.776
Targeted patrolling – firearms (N=113)	0.0	2.7	15.9	37.2	44.2	-0.752
Targeted patrolling – reduces crime (N=112)	0.0	0.9	3.6	50.0	45.5	-0.720
Knife Crime (N=113)	0.9	5.3	22.1	50.4	21.2	-0.632
DV – suicide warning marker (N=113)	1.8	7.1	31.9	26.5	32.7	-0.413
Power few of victims (N=113)	1.8	16.1	29.5	30.4	22.3	-0.211

Two of the more ambiguous response patterns regarding strategic relevance can be found for the results on suicide being a warning marker for serious domestic abuse and the power few of victims. The overall response for these results is still positive, e.g. at most a few questioned the strategic relevance of these results, but the responses include more observations that are located towards the lower end of the scale, than research items that an overall higher median rating for strategic relevance.

Strategic relevance to a small extent

There are three items that have a median response of Md = 2 (table 11), meaning that the respondents perceive the items to be relevant at a strategic level to a small extent. Of these items, two relate to studies on restorative justice conferences (RJC), i.e. the effects of RJC on reoffending and on post-traumatic stress symptoms. The third item concerns the effect of charity-run Cautioning and Relationship Abuse (CARA) workshops on re-offending. The items have in common that the number of respondents who do not want these results to be considered when frontline work is being planned is considerably higher than for results with higher median ratings for strategic relevance.

Table 11. Research results that respondents want to be taken into account to a small extent (Md = 2) when frontline police work is being planned

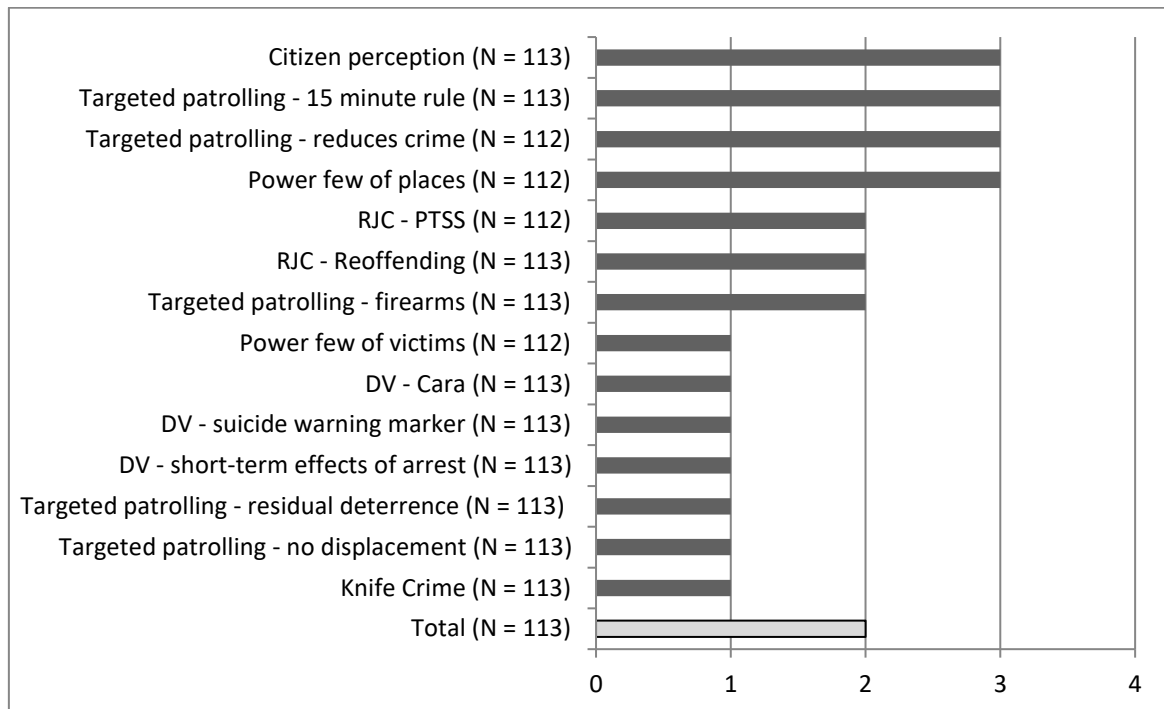
Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great Extent (%)	γ_1
RJC – Reoffending (N=113)	8.0	15.0	32.7	28.3	15.9	-0.270
RJC – PTSS (N=112)	8.9	17.9	30.4	24.1	18.8	-0.174
DV – Cara (N=113)	8.0	23.0	25.7	26.5	16.8	-0.108

4.1.3 Previous knowledge

The third question posed in relation to each item presented in the survey is “To what extent were you familiar with this result before you were given this questionnaire?” The overall median response to what extent respondents were familiar with the items before they received the questionnaire is Md = 2, which equals the response “to a small extent” (Figure 4). Overall skewness is low ($\gamma_1 = 0.150$), which means that the responses are fairly symmetrically distributed around the middle value of the scale which is also the median. The fact that skewness is positive means that there are slightly more observations towards the lower values on the scale than towards the higher values. This is a change in pattern compared to the variables measuring practical applicability and strategic relevance.

In the following the results will be grouped according to their median responses from highest to lowest.

Figure 4. Median response for 14 results from police research to the question “To what extent were you familiar with this result before you were given this questionnaire?”



Previous knowledge to a great extent

There are four research results for which the median is higher than the overall median for the question on previous knowledge. These are the results that crime is concentrated geographically, that targeted patrolling reduces crime in hot spots, that targeted patrolling does not need to last longer than 15 minutes to have a deterrent effect and the result regarding the effect of routine encounters on citizens' perceptions of the police. For all of these items the median response is $Md = 3$. All of the items with the exception of that on citizens' perceptions are heavily skewed towards the higher values on the scale, while the responses for citizens' perceptions are moderately skewed towards the positive values (Table 12). Only a few respondents stated that they have no previous knowledge of these four items.

Table 12. Research results that respondents report having previously been familiar with to a great extent (Md = 3)

Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great extent (%)	χ^2
Power few – Places (N=112)	1,8	4,5	7,1	42,9	43,8	-1,447
Targeted patrolling – reduces crime (N=112)	0,0	4,5	8,0	41,1	46,4	-1,120
Targeted patrolling – 15 minute rule (N=113)	2,7	7,1	8,0	38,1	44,2	-1,328
Citizen perception (N=113)	3,5	12,4	15,9	36,3	31,9	-0,756

Previous knowledge to a small extent

The respondents stated that their overall previous knowledge was small in relation to three of the 14 research results (Md = 2). The results in question are the effects of restorative justice conferences (RJC) on re-offending and on post-traumatic stress symptoms (PTSS) and also the effects of targeted patrolling on firearm offences (table 13). The number of respondents who stated that they had no previous knowledge of these results is considerably higher in this group by comparison with the number in the group presented above. Particularly notable here is the fact that almost one-third of the respondents answered that they had no previous knowledge of the effects of RJC on PTSS.

Table 13. Research results that respondents report having previously been familiar with to a small extent (Md = 2)

Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great extent (%)	χ^2
RJC – Reoffending (N=113)	15,9	19,5	33,6	21,2	9,7	-0,014
Targeted patrolling – firearms (N=113)	17,7	31,0	25,7	20,4	5,3	0,2278
RJC – PTSS (N=112)	29,5	19,6	27,7	16,1	7,1	0,2980

Previous knowledge to a very small extent

The respondents' overall previous knowledge is very small in relation to half of the 14 results. This group of research results includes all of the research findings on domestic violence, the results concerning residual deterrence and the absence of displacement effects in relation to targeted patrolling and also the power few of victims. The number of officers who reported having no previous knowledge at all ranges from 17.7 percent (Targeted patrolling - no displacement) up to 38.1 percent (DV – Cara). For three of the results, the responses are heavily skewed towards the lower end of the scale (Table 14).

Table 14. Research results that respondents report having previously been familiar with to a very small extent (Md = 1)

Variable	Not at all (%)	To a very small extent (%)	To a small extent (%)	To a great extent (%)	To a very great extent (%)	y1
Power few of victims (N=112)	28.6	22.3	19.6	18.8	10.7	0,307
DV – short-term effects of arrest (N=113)	29.2	24.8	24.8	17.7	3.5	0,318
Knife Crime (N=113)	23.9	28.3	23.0	18.6	6.2	0,323
Targeted patrolling – no displacement (N=113)	17.7	34.5	28.3	15.0	4.4	0,364
DV – Cara (N=113)	38.1	27.4	20.4	9.7	4.4	0,765
Targeted patrolling – residual deterrence (N=113)	37.2	31.0	17.7	9.7	4.4	0,837
DV – suicide warning marker (N=113)	37.2	33.6	15.9	8.0	5.3	0,965

4.1.4 Relationship between the descriptive variables

The relationship between the descriptive variables is investigated for each item using Spearman's correlation coefficient (Spearman's rho, r_s). Spearman's rho is a non-parametric statistic and is used when at least one of the variables is based on ordinal data which do not meet parametric assumptions, i.e. normally distributed data (Field 2009).

The value of the correlation coefficient can range from -1 to 1 and indicates the strength and the direction of the relationship. Opinions vary among different authors with regard to how Spearman's rho should be interpreted (Field 2009, Pallant 2010). In this thesis, the interpretation of the outcomes of r_s is based on guidelines proposed by Cohen (1988) (see

Table 15). Since the observations are based on population data, significance levels for correlations and differences are not presented.

Table 15. Cohen's (1988) guidelines for interpreting values of r_s

	Positive correlation	Negative correlation
Weak	.10 to .29	-.10 to -.29
Moderate	.30 to .49	-.30 to -.49
Strong	.50 to 1.0	-.50 to -1.0

There is a strong positive correlation between practical applicability and strategic relevance for 13 of the 14 research results (Table 16). For the research result on the power few of places there is a moderate positive correlation ($r_s = -.444$, $N = 113$).

Table 16. Correlations between practical applicability and strategic relevance for each research result based on Spearman's rho

Variable	N	r_s
Power few of places	113	.444
Knife Crime	112	.622
Targeted patrolling – reduces crime	113	.556
Targeted patrolling – no displacement	112	.777
Targeted patrolling – firearms	113	.729
Targeted patrolling – 15 minute rule	113	.686
Targeted patrolling – residual deterrence	113	.777
Citizen perception	113	.536
RJC – Reoffending	113	.824
RJC – PTSS	113	.842
DV – short-term effects of arrest	112	.673
DV – suicide warning marker	113	.748
DV – Cara	113	.764
Power few of victims	113	.811

The relationship between previous knowledge of a result and practical applicability and strategic relevance is not as clear. There are two research results for which there is a moderate positive correlation between previous knowledge and both practical applicability

and strategic relevance. The first of these research results is that the majority of knife homicides take place in neighbourhoods which have previously been subject to non-lethal knife attacks, $r_s = .309$, $N = 113$. The second result is that routine police encounters shape citizens' perceptions, $r_s = .349$, $N = 113$. For three of the results, there is a weak negative correlation between previous knowledge of the results and their practical applicability and strategic relevance. These three are the power few of places ($r_s = .240$, $N = 112$; $r_s = .167$, $N = 112$), the crime reduction effects of targeted patrolling ($r_s = .164$, $N = 113$; $r_s = .270$, $N = 113$) and the power few of victims ($r_s = .246$, $N = 112$; $r_s = .244$, $N = 112$). For the result on the short-term effects of arrests in domestic violence cases, there is a weak negative correlation between previous knowledge and the variables measuring usefulness ($r_s = -.145$, $N = 113$; $r_s = -.111$, $N = 113$). For correlations between previous knowledge and usefulness please see Table 21 and Table 22 in the appendices (C. Correlation tables).

4.2 Subgroup analysis

This section will examine similarities and differences in the descriptive variables between subgroups of the population. The relationship between the descriptive variables and the continuous background variables (age and years of service) is investigated using Spearman's correlation coefficient (Spearman's rho, r_s). Differences are presented if the correlation is weak or stronger.

The remaining background variables have been recoded into dichotomous variables, i.e. they only have two values each. Therefore, and because the descriptive variables are ordinal scale measures, the relationships between the descriptive variables and the dichotomous background variables are investigated using median comparisons.

Differences are presented if they are one step on the Likert-scale or bigger. This decision is not based on any statistical test but on the logical assumption that a difference smaller than at least one step on the response scale is not in reality a meaningful difference. The rating scale is ordinal level and the rating points cannot be regarded as equidistant. It does not therefore make sense to reduce the response categories into smaller units.

4.2.1 Age

4.2.1.1 Age and practical applicability

There is no evidence of a correlation between age and practical applicability overall ($r_s = -.026$, $N = 113$). However, when looking at the relationship between age and each of the results separately there are weak negative correlations for three of the items, i.e. power few of places ($r_s = -.123$, $N = 113$), targeted patrolling reduces crime in general ($r_s = -.149$, $N = 113$) and targeted patrolling reduces firearm assaults ($r_s = -.129$, $N = 113$).

4.2.1.2 Age and strategic relevance

In a similar way as for the results relating to practical applicability, there is no evidence of a correlation between age and perceptions of the strategic relevance of the research results at the overall level. There is, however, a weak negative correlation between age and the result regarding targeted patrolling reducing firearm assaults ($r_s = -.173$, $N = 113$), age and routine encounters influencing citizens' perceptions ($r_s = -.103$, $N = 113$) and age and restorative justice conferences decreasing reoffending ($r_s = -.131$, $N = 113$). For the power few of places there is a weak positive correlation with age ($r_s = .107$, $N = 112$).

4.2.1.3 Age and previous knowledge

Overall, there is a weak positive correlation between age and previous knowledge ($r_s = .122$, $N = 113$). When looking at the results individually, there are two items that correlate with age. One of them is routine encounters influencing citizens' perceptions, for which there is a weak negative correlation ($r_s = -.166$, $N = 113$). The other research result is that regarding the short-term effects on re-victimisation of domestic violence victims, for which the correlation is instead weak and positive ($r_s = .113$, $N = 113$).

4.2.2 Years of Service

4.2.2.1 Service and practical applicability

Overall, there is no evidence of a correlation between experience measured in years of service and perceptions regarding practical applicability ($r_s = -.028$, $N = 112$). When

looking at each item individually, there are weak negative correlations for three items, i.e. the power few of places ($r_s = -.177$, $N = 112$), targeted patrolling reduces crime ($r_s = -.163$, $N = 113$) and targeted patrolling reduces firearm assaults ($r_s = -.143$, $N = 113$).

On the other hand, there is a weak positive correlation between years of service and the 15 minute rule of targeted patrolling ($r_s = .150$, $N = 113$).

4.2.2.2 Service and strategic relevance

There is no evidence of a correlation between years of service and how the respondents perceive the research results' strategic relevance overall ($r_s = .028$, $N = 112$). There is a weak negative correlation between years of service and the result on targeted patrolling reducing firearm assaults ($r_s = -.128$, $N=112$), while there is a weak positive correlation between years of service and the result on the power few of victims ($r_s = .125$, $N = 112$).

4.2.2.3 Service and previous knowledge

There is a weak negative correlation between years of service and previous knowledge in relation to three of the research results, i.e. the power few of places ($r_s = -.125$, $N = 112$), the effects of routine encounters on citizens' perceptions ($r_s = -.144$, $N = 112$) and the effects of restorative justice conferences on reoffending ($r_s = -.106$, $N = 112$). However, no correlation can be observed for years of service in relation to previous knowledge ($r_s = .053$, $N = 112$).

4.2.3 Gender

4.2.3.1 Gender and practical applicability

Overall, opinions on the practical applicability of the 14 results do not differ between men ($Md = 3$, $N = 77$) and women ($Md = 3$, $N = 35$). There are, however, six of the results that female officers rate higher in terms of practical applicability than male officers. Female officers rate two of the results on the effects of targeted patrolling (firearms offences and residual deterrence) as being applicable to a very great extent ($Md = 4$, $N = 35$), whereas male officers rate these results as being applicable to a great extent ($Md = 3$, $N = 77$). The

same pattern can be found for the result on suicide being a warning marker for serious domestic violence (men: Md = 3, N = 77; women: Md = 4, N = 35). Female officers also rate the two results on RJC as being more applicable than do male officers (men: Md = 2, N = 77; women: Md = 3, N = 35). Finally, female officers also rate the results of CARA workshops on reoffending and harm reduction as being more applicable than do male officers (men: Md = 2, N = 77; women: Md = 3, N = 35).

4.2.3.2 Gender and strategic relevance

No differences between men and women can be observed in terms of the perceived strategic relevance of the results overall. When looking at the rating of strategic relevance for each result individually, there are four results for which differences can be observed. Results that women perceive to be of more strategic relevance when looking at median differences are that targeted patrolling reduces crime (men: Md = 3, N = 77; women: Md = 4, N = 35), the effect of targeted patrolling on firearm offences (men: Md = 3, N = 77; women: Md = 4, N = 35), the residual deterrence effect of targeted patrolling offences (men: Md = 3, N = 77; women: Md = 4, N = 35), and that participating in RJC reduces reoffending (men: Md = 2, N = 77; women: Md = 3, N = 35).

4.2.3.3 Gender and previous knowledge

No meaningful differences can be observed in terms of previous knowledge of the results overall (men: Md = 2.0, N = 77; women: Md = 1.5, N = 35). Women report having better previous knowledge of the result on knife crime (men: Md = 1, N = 77; women: Md = 2, N = 35) and on the result on the effects of RJC on PTSS in victims (men: Md = 1, N = 77; women: Md = 2, N = 35). However, men report having better previous knowledge of the result on the power few of victims (men: Md = 2, N = 77; women: Md = 1, N = 35).

4.2.4 Academic background

4.2.4.1 Academic background and practical applicability

No meaningful differences can be observed for the overall results on practical applicability in terms of academic background (no: Md = 3, N = 99; yes: Md = 3, N = 13). Officers who report having an academic background rate the results concerning the effects of RJC on reoffending (no: Md = 2, N = 99; yes: Md = 3, N = 13) and PTSS (no: Md = 2, N = 98; yes: Md = 3, N = 13) as being more applicable than their colleagues without an academic education. Conversely, there are three results that respondents with no academic education rate higher than their colleagues. These results are the residual deterrence effects of targeted patrolling (no: Md = 4, N = 99; yes: Md = 3, N = 13), the short-term effects of arrests in domestic violence cases (no: Md = 4, N = 99; yes: Md = 3, N = 13) and the effect of the Cara program on domestic violence offenders (no: Md = 3, N = 99; yes: Md = 2, N = 13).

4.2.4.2 Academic background and strategic relevance

No difference in terms of academic background can be observed for the results on strategic relevance overall (no: Md = 3, N = 99; yes: Md = 3, N = 13). Respondents who report having an academic background rate the strategic relevance of the result concerning the effect of RJC on re-offending higher than their colleagues (no: Md = 2, N = 99; yes: Md = 3, N = 13). Median differences in terms of academic background can also be found for the perceived strategic relevance of three other results. All of these are rated higher in terms of strategic relevance by respondents without an academic background. These results are the 15 minute rule of targeted patrolling (no: Md = 4, N = 99; yes: Md = 3, N = 13), suicide as a warning marker for domestic violence (no: Md = 3, N = 99; yes: Md = 2, N = 13) and the power few of victims (no: Md = 3, N = 99; yes: Md = 2, N = 13).

4.2.4.3 Academic background and previous knowledge

No difference in terms of academic background can be observed for previous knowledge of the results overall. Those who do *not* have an academic background report more previous knowledge of three of the results. The first one is the result on the effect of targeted patrolling on firearm offences (no: Md = 2, N = 99; yes: Md = 1, N = 13).

Respondents with an academic background report that they have no previous knowledge at all of the results on suicide as a warning marker for serious domestic violence (Md = 0, N = 13) or on the effect of RJC on PTSS in victims (Md = 0, N = 13). Conversely, respondents without an academic background report that they have known about the result of suicide as a warning marker for serious domestic violence to a very small extent (Md = 1, N = 99) and about the effect of RJC on PTSS in victims to a small extent (Md = 2, N = 98). For the latter result the difference between the groups is two steps on the Likert-scale which is the largest observed difference between groups in the subgroup analysis.

4.2.5 Position

4.2.5.1 Position and practical applicability

No difference in terms of position can be observed for the perceived practical applicability of the results overall (frontline officer: Md = 3, N = 94; supervisor: Md = 3, N = 15). There are three research results which respondents with a supervisor position rate as being applicable to the daily work of police officers to a great extent, while respondents who are not supervisors rate them as being applicable to a small extent. These results are the effects of RJC on reoffending (frontline officer: Md = 2, N = 94; supervisor: Md = 3, N = 15), the effects of RJC on PTSS in victims (frontline officer: Md = 2, N = 93; supervisor: Md = 3, N = 15) and the result of CARA workshops on reoffending and harm reduction (frontline officer: Md = 2, N = 94; supervisor: Md = 3, N = 15).

4.2.5.2 Position and strategic relevance

Opinions on the strategic relevance of the results overall do not differ between positions (frontline officer: Md = 3, N = 94; supervisor: Md = 3, N = 15). However, there are four results whose strategic relevance receives higher ratings from those with a supervisor position compared to those without a supervisor position. Supervisors report that they would like the result on the 15 minute rule of targeted patrolling as well as the result on the residual deterrence effect of targeted patrolling to be considered to a very great extent (Md = 4, N = 15; Md = 4, N = 15) while frontline police officers want these results to be considered to a great extent (Md = 3, N = 94; Md = 3, N = 94).

The other two results that supervisors would like to be considered to a greater extent compared to frontline officers are the result of result of CARA workshops on reoffending and harm reduction (frontline officer: Md = 2, N = 94; supervisor: Md = 3, N = 15) and the result on the power few of victims (frontline officer: Md = 2, N = 94; supervisor: Md = 3, N = 15).

4.2.5.3 Position and previous knowledge

While there is no difference between supervisors and frontline officers concerning previous knowledge of the results overall (frontline officer: Md = 2, N = 94; supervisor: Md = 2, N = 15), there are different levels of previous knowledge among the groups for four of the results. Supervisors report higher levels of previous knowledge of the results on the effect of RJC on PTSS in victims (frontline officer: Md = 1, N = 94; supervisor: Md = 2, N = 15) and the short-term effects of arrests in domestic violence cases (frontline officer: Md = 1, N = 94; supervisor: Md = 2, N = 15).

Frontline officers on the other hand report more previous knowledge of the result concerning the absence of displacement effects for targeted patrolling (frontline officer: Md = 2, N = 94; supervisor: Md = 1, N = 15) and the effects of targeted patrolling on firearm offences (frontline officer: Md = 2, N = 94; supervisor: Md = 1, N = 15).

4.3. Summary

The results of this study suggest that respondents perceive the majority of the research findings to be useful, both on a practical and a strategic level. There are two research findings that receive higher ratings for usefulness, these are the findings on short-term effects of arrests in DV cases and the effect of routine police encounters on the public's perception of the police. Other findings that receive high ratings for practical applicability are three of the results regarding targeted patrolling. There are three findings that receive low ratings from the respondents both regarding practical applicability and strategic relevance. Two of these findings regard the effects of RJC while the third one is the finding of the effects of project CARA. Overall, the results of this study indicate that respondents' knowledge on the 14 research findings is limited. However, respondents report to have better knowledge of the finding regarding the public's perception of the police and three findings regarding targeted patrolling.

Overall, the concepts of usefulness and previous knowledge do not seem to be interrelated in the current study, although there are a few exceptions for some of the research findings.

The subgroup analysis found no notable differences between different groups regarding the concepts of usefulness and previous knowledge. There are, however, minor differences in attitudes between groups regarding individual research findings.

5.0 Discussion

The chapter is divided into three sections. The first section highlights the main findings from the previous section and provides possible explanations. The second section describes the limitations of the study that need to be considered when interpreting the results. The third section describes the implications of the results for both policy and research.

5.1 Main Findings

The main research question this study has aimed to answer is “What are the opinions of Swedish police officers on the usefulness of, and their previous knowledge about, selected policy-relevant evidence-based policing (EBP) research findings on crime and policing?”

Overall, Swedish frontline officers appear to be positive about the usefulness of the research findings as a whole, both with regard to the findings’ practical applicability and their strategic relevance. The overall median response for both dimensions of usefulness is that the results are useful to a great extent (Md=3), which is the second highest possible response. However, there are some differences in views towards individual results. The median responses for practical applicability and strategic relevance range from “To a small extent” (Md=2) to “To a very great extent” (Md=4) on a five-point scale ranging from 0 to four. Results that receive the most positive ratings (Md=4) for both practical applicability and strategic relevance are those that most closely resemble the current task of intervention police, i.e. short-term effects of arrest in domestic violence cases and the effect of routine police encounters on citizen perception. Three results that receive the highest ratings on practical applicability but and the second highest on strategic relevance are results regarding targeted patrolling, i.e. 1) the effect of residual deterrence, 2) the 15 minutes rule and 3) the crime reduction effect. On strategic relevance the results of targeted patrolling are consistently rated to be strategically relevant to a great extent (Md=3).

When looking at the median ratings for the individual research findings three of these findings received notably lower ratings with regard to both practical applicability and strategic relevance. These are the findings concerning the effect of restorative justice conferences, i.e. effects on PTSS in victims and effects on recidivism of offenders and the finding on the effectiveness of Project Cara. Compared to the remaining findings that were presented to the respondents, these three distinguish themselves in that they relate to a stage of the criminal justice process that Swedish frontline police officers are rarely a part of. This could explain why these findings receive relatively low ratings. It should be noted that in spite of this, even these findings were rated as being applicable, but to a lesser extent. Only around a tenth of the respondents rated these findings as not being applicable at all.

When examining the levels of reported previous knowledge of the research findings, the ratings are lower than the ratings of usefulness. Overall, the respondents report having known about the results overall to a small extent ($Md=2$), which can be interpreted as showing that their previous knowledge is limited. Research results that receive higher ratings ($Md=3$) than the overall median are the effects of routine police encounters on citizen perception and three results regarding targeted patrolling (15 minutes rule, crime reduction effect and the power few of places). One explanation for the high ratings of the result regarding citizen perception could be that respondents are familiar with the specific result. It is, however, more likely that it is not the specific result the respondents know about but rather that the result is perceived as being “common sense”. Another explanation can be found in a model called “police-citizen partnerships” that all local police areas are assigned to employ since the re-organisation of the police in 2015. The model of police-citizen partnerships originates in the concept of community policing and emphasizes a good relationship between citizens and the police (Brå 2018b). Targeted patrolling is also a concept that is relatively well established in the Swedish police in general and in the Stockholm area specifically (Granath 2013). According to Granath

(2013), the police area of central Stockholm has employed ideas of place-based policing since the early 2000s, this would explain why the respondents appear to be familiar with some of the results concerning targeted patrolling. An interesting observation is that frontline officers perceive their previous knowledge to be great for the results mentioned above, but to be small ($Md=2$) for the result regarding the effect of targeted patrolling on offences including firearms and very small ($Md=1$) for the result that states that crime does not move around the corner (targeted patrolling - displacement) and for the result regarding the lingering effects of targeted patrolling (targeted patrolling - residual deterrence).

A correlational analysis between perceived usefulness and reported previous knowledge did not give any indication that these concepts are interrelated in this current study.

The subgroup analyses did not yield any overall differences in attitudes or previous knowledge based on gender, academic background or position nor did they give any indications that age and experience are related to the respondents' ratings of perceived usefulness and previous knowledge.

5.2 Limitations

Before discussing the implications of the study's results it is important to examine this study's limitations. Discussing the methodological quality of a study is vital before its implications can be discussed (Wilcox and Hirschfield 2007).

This study has aimed to describe a phenomenon, i.e. police officers' attitudes to and previous knowledge of certain research findings. According to Ariel (2018) it is vital to choose a research method based on the research question at issue. Since previous research exists in the area of police receptivity to research, this study is observational rather than exploratory. Descriptive research therefore constitutes a feasible way of examining the research question (Ariel 2018, Bachman and Schutt 2017). However, an observational research design comes with several limitations.

When interpreting the results of the study it is important to pay close attention to the specific factors examined by the study. The study measures officers' opinions on the research findings presented in the questionnaire. One should therefore be careful when making inferences about how the surveyed police officers feel about research in general, not least because one result that appeared to be controversial was removed from the questionnaire before the survey was conducted (see section 3.3.3 Validation of the survey).

It is also important to remember that this survey asked questions about attitudes towards usefulness of research. These attitudes only constitute one dimension of receptivity and should therefore be treated as such. Moreover, the ratings of usefulness give us information about the officers' attitudes but do not tell us whether an attempt to implement the research findings would be successful. Even though positive attitudes towards a concept are important in this case (Lum and Koper 2017), implementation requires more than that. Lastly, it should be noted that previous knowledge is self-assessed in the current study, which tells us about the extent to which respondents *think* they have previous knowledge of a result, but we do not know anything about the type of knowledge they have or the cognitive quality of their knowledge (Sundström 2009).

Bachman and Schutt (2017) describe two types of generalizability. One is sample generalizability and the other is cross-population generalizability. Sample generalizability, whether the results hold true for a population, is high in this study because the sampling frame comprises the population of frontline officers and their supervisors in two local police areas, the response rate is high (86 percent) and the non-response is unlikely to be systematic (see also section 3.2.3 Response rate). Therefore, it makes sense to assume that the findings apply to the population surveyed (Bachman & Schutt 2017). The other issue is whether the results can be generalized to other places, people, times, settings, or operational definitions of the variables examined (Bachman & Schutt 2017).

Geographically speaking, Sweden is a large country, with a low population density of 22 inhabitants per square kilometre² that varies greatly between different regions. This is likely to affect the extent to which the results of this study are generalizable to other Swedish frontline police officers. It is reasonable to assume that similar results could be obtained among officers from other urban areas (e.g. Malmö or Gothenburg) since these areas face similar problems. However, in the rural areas of Northern Sweden, officers might think differently about the usefulness of these research findings, since these areas face different problems. The issue of which officers these results might be generalizable to is not only geographical but also occupational. Frontline police officers as a group are relatively young in terms of both age and experience, since most officers do frontline police work at the beginning of their careers and then move on to other parts of the organisation. There are no other groups in the Swedish police with the same characteristics; therefore these results cannot be transferred to other occupations within the police organisation. This means for example that while age and years of service do not appear to be interrelated with attitudes towards and previous knowledge on research results for the population of frontline officers, the picture might be different when looking at a different group of officers.

All of these limitations will be considered when the study's implications are discussed in the following section.

5.3 Implications

The findings of the study suggest that frontline police officers are open towards using the selected findings in their daily work. Nor did the study find any meaningful differences in attitudes between supervisors and frontline officers. This adds to the overall positive picture of a welcoming attitude towards the research findings that were presented to the respondents in the questionnaire. Implementation research has repeatedly highlighted the fact that getting people on board is crucial to the successful implementation of an

² To illustrate, the comparable number for the UK is 271 per square kilometre.

innovation within an organisation. Lum and Koper (2017) argue that there is little use in having lots of high quality research translated for practitioners if they do not see any use in it. Their claim is supported by Meyers et al. (2012) who developed a “Quality Implementation Framework” which comprises a synthesis of results from studies on implementation. Of the 25 studies included in the framework, 23 stress the importance of genuine and explicit buy-in from critical stakeholders, e.g. frontline officers and their supervisors.

The results of the current study also suggest that previous knowledge of specific research findings among police officers is limited. Taken together, the officers’ positive attitudes, in combination with their limited knowledge, indicate that there is an untapped potential for working in an evidence-based manner in the current police organisation. This is in line with the findings of previous evaluations, which have repeatedly criticised the police for not incorporating research into their work (RiR 2010, Brå 2013, Sarnecki 2019). So, how do we go from “useful” to “use”?

There are studies that have examined the difficulties of working with crime prevention activities in the Swedish police organisation which may help us to better understand the results of this study and to put them into context. This is in line with Magnusson (2018), who argues that one aspect of understanding organisational readiness to adopt an evidence-based approach lies in examining the gap between police practice and police policy.

As in most organisations, resources in the Swedish police are limited, which means that to increase officers in one area, they have to be taken from another. Traditionally the police have focused their frontline resources on traditional, reactive tasks, which is illustrated by the fact that frontline police officers are called intervention police officers in Sweden. This means that crime prevention activities have a rather difficult position in the Swedish police organisation.

Stated simply, there are two ways in which frontline officers can carry out crime prevention activities in their daily work – they may either be previously planned or initiated spontaneously. “Previously planned” would mean that there are patrols that are dedicated to work with crime prevention activities during their shifts. The majority of the patrols working on a given shift, however, are emergency response teams that primarily answer calls for service. At times when there are few calls, these patrols are also expected to spontaneously initiate crime prevention activities. This means that officers have high a level of discretion when it comes to choosing methods for crime prevention activities, which is in line with the theory on street-level bureaucracy (Lipsky 1980, 2010). However, the first question frontline officers asked themselves is usually not what method should be used but rather whether crime prevention activities can be carried out at all (Brå 2013b, Sarnecki 2019). There is a perception that crime prevention activities are time consuming and that scarce resources are put to use elsewhere, i.e. in intervention activities. This perception is not only found on the street level but also higher up in the organisation. A survey conducted by the National Council for Crime Prevention (Brå 2013 b) found that lack of frontline police is the main reason that local police chiefs report to why their local police cannot conduct systematic crime prevention work. A similar picture can be seen in the qualitative interviews conducted by Sarnecki (2019) with police employees. Sarnecki (2019) points to the dilemma in the police organisation with regard to crime prevention. On the one hand they are offered evidence-based methods that have been shown to save resources in the long run, e.g. via efficient targeting or reduced calls for service. On the other hand they are hesitant to use these methods because they might require more resources to begin with. It is debateable whether the demand for resources in the police can ever be met not least because this demand is difficult to measure. This problem can be illustrated with the help of a somewhat unscientific observation from the author of this thesis. Class mates on the Mst Applied Criminology and Police Management course experienced a shortage of frontline officer, regardless of whether their organisation had experienced substantial cutbacks due to austerity, e.g. in the UK, or substantial

investments in the police, as it has been the case in Sweden. It is possible that the perceived lack of resources works as what Sherman (2015) has described as a smothering paradigm in relation to working in an evidence-based manner. This would mean that it does not matter whether or not the shortage of resources is real, because the perceived shortage is so real to key figures in the organisation that it constitutes an obstacle towards working in an evidence-based fashion.

It is not uncommon that suggestions for change are met with this form of scepticism, and this scepticism needs to be addressed. Fixsen et al. (2005) suggest that a communication link or “purveyor” is an essential part of implementation, because this actor takes responsibility for addressing the concerns that arise among those affected by the change. Sherman (2015) adds that ideally, a purveyor is a motivated advocate of evidence-based policing in general who has received relevant education on the subject beforehand (Sherman 2015). In a receptivity study conducted in three police areas in the US, Telep and Lum (2014) observed that officers from the area who had a chief who advocated working in a research-based manner also reported attitudes more coherent with existing research and a better knowledge of EBP.

A purveyor of implementation does not necessarily have to be a chief. Magnusson (2018) conducted one of only a few, if not the first, randomized controlled trial (RCT) in the field of policing in Sweden, testing the effects of motivational talks on drug abusers.

Magnusson (2018) herself is a drug enforcement police officer and was a student in criminology at the time the study was conducted³ which makes her a “pracademic”. The term describes a person who is both practitioner and an academic in a given area and is also a combination of these two words (Posner 2009). Magnusson (2018) observed that having a pracademic as the purveyor of the RCT facilitated improvements in three areas, i.e. communication between practitioners and police management, evaluations and the chances of achieving changes in police practice.

³ She is now one of two PhD students within the Swedish police organisation.

Swedish research in the field of police receptivity to research and the effects it has on implementation is limited. The present study on police officers attitudes towards the usefulness of research adds valuable information regarding the current situation in the Swedish police organisation.

There are several ways to proceed from this point to further advance research on receptivity. One way would be a qualitative approach involving individual interviews or focus groups. These interviews could revolve around the question of why officers find certain results useful while others upset them. The current study had to exclude one of the research findings from the survey due to the latter. This is, however, also a result that should be analysed more closely. It would also be interesting to see whether officers from different parts of the country have a similar perception of the usefulness of research findings as their colleagues in Stockholm. Qualitative interviews could also be used to identify obstacles towards working evidence-based.

On the basis of the interviews, a more quantitative approach could be developed looking further into what drives perceptions of usefulness. In this study respondents did not receive any information about where the studies had been conducted, and the results were presented in Swedish even though all of the underlying articles had been written in English. Respondents could be randomized to receive questionnaires in which the results were presented in either English or Swedish to check whether language is an important factor.

6.0 Conclusion

In Sweden today there is a powerful external demand for a professionalized police organisation. The most serious attempt being made to meet this demand is currently found in the efforts being made to transform the police training program into a fit-for-purpose higher education program (Regeringen 2015). The preparations for redesigning the program have started, and eventually all new recruits will start their police career with a university degree. From the results of the present study it can also be concluded that there is at least a curiosity to undertake research-based working. What is currently lacking is a plan for how new knowledge can be put to use by the police. One thing that has emerged from previous research is that the police are struggling to implement research-based policy in the area of crime prevention. One solution to that problem might be to identify a suitable purveyor for the purpose of implementation, possibly a pracademic. To date, these are still rare, although efforts have been made in this direction e.g. by nominating two officers for a part-time PhD or by sending officers to the Mst Program in Cambridge. However, most of these pracademics work in strategic functions rather than at the street level. New recruits could eventually take on the role purveyors, but not until they have acquired several years of practical experience to complement their theoretical knowledge. One group from which purveyors could be recruited today is the frontline officers, and their supervisors who have participated in this survey. The results of the current study suggest that there is a genuine interest in learning more about methods that would improve frontline police work and there is definitely room for improvement when it comes to knowledge about these methods. Even though it is not clear yet when the police trainees that have undergone professional training will start, it is important that the organisation is prepared to take care of the new knowledge these recruits bring with them. One way of preparation is to nourish the curiosity for research among existing police officers.

During the course of writing this thesis I also read “The New Self-Sufficient Gardener” (Seymour 2008). Since I do not really have a green fingers I was fascinated by how much preparation there is to do before the first small seeds can be planted and that choosing the wrong soil can have devastating consequences for the growth of the seed and chances of the plant ever bearing fruit. When going back to my desk I realised that there are similarities between gardening and implementation. If you do not prepare the soil your seeds might never grow.

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Appendices

A. Questionnaire – English translation

Hej!

My name is Anna-Lena Beutgen and I am a student with Cambridge University. I am currently enrolled in the Mst Applied Criminology and Police Management. This year I am writing my thesis on examining how useful frontline police officers perceive results from police research to be.

What should I do?

It is important that you answer the questions in this questionnaire based on your own opinion and experience so that I can answer my research question in the best possible way. There are no right or wrong answers.

Can anybody see my answers?

Your answers will be analysed together with the answers of other respondents and will be presented in a way that makes it impossible to identify individual answers.

Taking part in this survey is voluntary and you can terminate your participation without any explanation at any time.

Thank you for your participation!

Kind regards,

Anna-Lena Beutgen

xxx@gmail.com

076-xxx xx xx

1. What is your current position?

- a. Police trainee
- b. Frontline Police Officer
- c. Crime Prevention Officer
- d. Municipal Police Officer
- e. Supervisor
- f. Other, please state: _____

2. In which year did you start working for the police?

Below you will be presented with 14 results from empirical police research. The results have been chosen by one of the leading researchers in the field of evidence-based policing and are considered to be of high scientific quality.

For every result you will be asked three questions that you should answer by choosing one on a scale from one to five.

Note: Read the questions thoroughly before you answer them!

3. Crime is not randomly distributed between different places but is heavily concentrated to certain delimited places (so-called hot spots).

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

4. The majority of knife-homicides are committed in neighbourhoods in which non-lethal knife-attacks have occurred earlier.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

5. Targeted patrolling of hot spots reduces crime and disorder in these areas.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

6. Targeted patrolling of hot spots does not lead to the displacement of crime to neighbouring areas.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

7. Targeted patrolling of places with high levels of firearm assaults reduces firearm assaults substantially in those places, without any displacement of crime to surrounding areas or times .

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

8. It is not necessary to patrol hot spots for longer than 10 to 15 minutes at a time. Patrolling a hot spot for longer than this does not increase the deterrent effect.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

9. The residual deterrence of targeted patrolling lasts for four days after police leave a crime hot spot. After that, crime levels increase substantially in the targeted location.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

10. The way citizens perceive the police can be influenced by the way in which police interact with citizens during routine encounters e.g. in breath tests.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

11. A meeting between an offender and a victim led by a police officer can lead to an initial reduction of repeat offending in offenders.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

12. A meeting between an offender and a victim led by a police officer can lead to a short-term reduction in symptoms of PTSS in the victim.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

13. Partner arrests for domestic assault reduce the victim's risk of being re-victimized by the same offender up to six months after the arrest .

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

14. One warning marker of serious domestic abuse may be suicidal ideation or threats of self-harm by an offender .

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

15. The residual deterrence of targeted patrolling lasts for four days after police leave a crime hot spot. After that, crime levels increase substantially in the targeted location.

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

16. Less than 4 percent of victims suffer 85 percent of the victim harm in a given area .

	Not at all	To a very small extent	To a small extent	To a great extent	To a very great extent
To what extent do you consider the following result useful for your daily work as a police officer?					
To what extent would you like this result to be taken into account when frontline work is being planned?					
To what extent were you familiar with this result before you were given this questionnaire?					

17. What is your gender?

- a. Female
- b. Male
- c. Other

18. In which year were you born?

19. Have you gone through formal police training?

- a. Yes
- b. No – Got to question 21

20. What is your highest completed level of education besides formal police training? (go to question 22)

- a. Primary School
- b. High School/Secondary School
- c. Upper Secondary School
- d. University or college education less than 3 years
- e. University or college education more than 3 years

21. What is your highest completed level of education?

- a. Primary School
- b. High School/Secondary School
- c. Upper Secondary School
- d. University or college education less than 3 years
- e. University or college education more than 3 years

22. Do you want to receive more information about the studies behind the results presented in this survey?

- a. Yes, please state your email address below
- b. No

23. Would you agree on being contacted to take part in a focus group or an interview to discuss the results of this survey?

- a. Yes, please state your email address below
- b. No

B. Item non-response

Table 17. Item non-response for variables measuring perceived practical applicability

	N	
	Valid	Missing
Power few of places	112	1
Knife Crime	113	0
Targeted patrolling – reduces crime	112	1
Targeted patrolling – no displacement	113	0
Targeted patrolling – firearms	113	0
Targeted patrolling – 15 minute rule	113	0
Targeted patrolling – residual deterrence	113	0
Citizen perception	113	0
RJC – Reoffending	113	0
RJC – PTSS	112	1
DV – short-term effects of arrest	113	0
DV – suicide warning marker	113	0
DV – Cara	113	0
Power few of victims	112	1

Table 18. Item non-response for variables measuring perceived strategic relevance

	N	
	Valid	Missing
Power few of places	112	1
Knife Crime	113	0
Targeted patrolling – reduces crime	112	1
Targeted patrolling – no displacement	113	0
Targeted patrolling – firearms	113	0
Targeted patrolling – 15 minute rule	113	0
Targeted patrolling – residual deterrence	113	0
Citizen perception	113	0
RJC – Reoffending	113	0
RJC – PTSS	112	1
DV – short-term effects of arrest	113	0
DV – suicide warning marker	113	0
DV – Cara	113	0
Power few of victims	112	1

Table 19. Item non-response for variables measuring previous knowledge

	N	
	Valid	Missing
Power few of places	112	1
Knife Crime	113	0
Targeted patrolling – reduces crime	112	1
Targeted patrolling – no displacement	113	0
Targeted patrolling – firearms	113	0
Targeted patrolling – 15 minute rule	113	0
Targeted patrolling – residual deterrence	113	0
Citizen perception	113	0
RJC – Reoffending	113	0
RJC – PTSS	112	1
DV – short-term effects of arrest	113	0
DV – suicide warning marker	113	0
DV – Cara	113	0
Power few of victims	112	1

Table 20. Item non-response for background variables

	N	
	Valid	Missing
Position	113	0
Gender	113	0
Formal police training	113	0
Education	112	1
Age	113	0
Years of Service	112	1

C. Correlation tables

Table 21. Correlations between practical applicability and previous knowledge for each research result based on Spearman's rho

Variable	N	r _s
Power few of places	112	0,240
Knife Crime	113	0,309
Targeted patrolling - reduces crime	112	0,165
Targeted patrolling - no displacement	113	0,090
Targeted patrolling - firearms	113	0,058
Targeted patrolling - 15 minute rule	113	0,101
Targeted patrolling - residual deterrence	113	-
Citizen perception	113	0,056
RJC - Reoffending	113	0,349
		-
RJC - PTSS	112	0,012
		-
DV - short-term effects of arrest	113	0,146
DV - suicide warning marker	113	0,061
		-
DV - Cara	113	0,028
Power few of victims	112	0,246

Table 22. Correlations between strategic relevance and previous knowledge for each research result based on Spearman's rho

Variable	N	r _s
Power few of places	112	0,167
Knife Crime	113	0,359
Targeted patrolling - reduces crime	112	0,270
Targeted patrolling - no displacement	113	0,179
		-
Targeted patrolling - firearms	113	0,002
		-
Targeted patrolling - 15 minute rule	113	0,014
Targeted patrolling - residual deterrence	113	0,043
Citizen perception	113	0,421
RJC - Reoffending	113	0,172
RJC - PTSS	112	0,054
		-
DV - short-term effects of arrest	113	0,112
DV - suicide warning marker	113	0,182
		-
DV - Cara	113	0,037
Power few of victims	112	0,244