Bridging the gap: Unpacking the role of the SAPS Crime Information Management and Analysis Centre in advancing Evidence-Based Policing in South Africa

Mpho Maboa [1], Juanida Horne [2]

[1,2] College of Law, School of Criminal Justice, Department of Police Practice, University of South Africa.
Corresponding authour: etshihm@unisa.ac.za

Abstract: South Africa is grappling with escalating crime rates, its quarterly statistics show increases in both violent and property-related crimes. Despite continuous efforts by the South African Police Service (SAPS) to refine policing strategies, the country continues to face high crime levels. In the 21st century, evidence-based policing (EBP) has become an essential tool, as it emphasises research in formulating effective crime reduction strategies and addresses internal police issues. EBP aids law enforcement in identifying and implementing suitable strategies for specific situations, thus complementing existing policing models.

This paper examines the role of the Crime Information Management and Analysis Centre (CIMAC) in promoting EBP within the SAPS. Using a qualitative approach, data was collected through an extensive literature review, and through in-depth interviews with SAPS officials, CIMAC members at station level, and members of the Crime Registrar at provincial and national levels. Additionally, insights from two international participants provided a global perspective on the use of crime analysis units in crime prevention and reduction. This paper highlights the benefits of integrating EBP within law enforcement by focusing on the CIMAC's role in advancing EBP within the SAPS. EBP enhances policing professionalism by establishing a robust evidence base and by fostering tailored, innovative solutions to real-world challenges. Successful EBP implementation within the SAPS requires leveraging the CIMAC's capabilities through a comprehensive approach.

This paper's findings reveal that the CIMAC's role in advancing EBP includes problem identification, knowledge management, insight sharing, needs identification, research prospect analysis, and trust-building among researchers, the community, and the police. The CIMAC's involvement in EBP offers several advantages including them leading the adoption of EBP at police stations, thereby ensuring accountability and effectiveness through rigorous monitoring and evaluation, and fostering collaboration among researchers, police officials, and CIMAC analysts. Furthermore, the CIMAC empowers frontline police officers to engage in research activities, thus enhancing internal evaluation capabilities. The CIMAC also plays a crucial role in translating research evidence into actionable insights and facilitating informed decision-making within law enforcement. Enhanced communication between the CIMAC and operational members reduces resistance to research products, and fosters a culture of evidence utilisation within the SAPS.

The paper provides recommendations to maximise the CIMAC's effectiveness in EBP, including the development of tailored research methodologies, the proposal of a cohesive collaboration between CIMAC and EBP stakeholders, and the integration of intelligence-driven approaches into policing practices. It further underscores the importance of transparent reporting frameworks, standardised procedures and adherence to standard operating procedures (SOPs) to facilitate EBP implementation across all levels of law enforcement. In conclusion, the paper outlines the benefits of using the CIMAC as a catalyst for change within SAPS and offers recommendations for its effective utilisation in advancing evidence-based policing.

Keywords: Crime analysis, Crime Information Management and Analysis Centre (CIMAC), Crime prevention, Crime statistics, Evidence Based Policing (EBP)

Introduction

Police organisations across the continent continuously strive to change the policing models and strategies to achieve their goal of crime prevention and reduction. Consequently, as time evolves an array of models and strategies are used to curb the crime. The South African Police Service (SAPS) has long been devising strategies and techniques to combat criminal activities, however, the evidence of the effectiveness of such strategies cannot be presented, as they are partially documented, or they were unsuccessful in addressing or at least reducing crime as South Africa (SA) continues to record high levels of crimes across the country. The traditional model of policing, Intelligence Led Policing, Problem Oriented Policing (SARA), Community based Policing, and Sector Policing are some of the different policing models used by the SAPS in the fight against crime.

Crime reduction is one of the major challenges facing South Africa (Roelofse & Gumbi, 2012:13). The annual crime figures in the preceding decade continually reveal inclining and broad national trends on most crime types, with several police stations continuing to record violent and property related crimes (Breetske, 2007:2; Swabe, De Kock & Currin, 2017:8). Claasen (2019:28) believes that the extreme levels of violent crime committed daily, require crucial and essential proactive action and commitment by the SAPS to ensure a significant decrease of these contact crimes nationwide.

For Sherman (1998:3) EBP is the use of the best available research on the outcomes of police work to implement guidelines and evaluate agencies, units, and officers. EBP is therefore not another policing model or passing fad, in fact, it is not a model or strategy at all, but a method for evaluating and optimising a policing approach (Kriegler, 2023:np). EBP doesn't replace models such as community policing, sector policing or problem-oriented policing, but it can help law enforcement agencies anywhere in the world to identify which strategy best fits a particular situation and help implement and improve that strategy. EBP leverages the country's investment in police and criminal justice research to help develop, implement and evaluate proactive crime-fighting strategies. It is an approach to controlling crime and disorder that promises to be more effective and less expensive than the traditional response-driven models, which many countries can no longer afford. With fewer resources available, it simply does not make sense for the police to pursue crime control strategies that science has proven to be ineffective (Bueermann, 2012:12).

Having access to crime statistics information is only one part of identifying whether a policing precinct has a problem relating to a specific crime type. Solutions for specific crime types requires a determination of whether specific sectors or areas within a police precinct are more prone to such types of crime; or whether the crime pattern is random and scattered (Kempen, 2019:10). Analysed crime information results, increase one's knowledge about crime, which in turn enhances multiple approaches and their functions in the reduction and investigation of crime (Horne, 2009:75). Piza and Feng (2017:340) state that since a crime analysis is expected to lead to crime reduction, a crime analysis should play a central role in determining whether a significant crime reduction has occurred. Crime analysis does not replace the field work and investigative skills of sworn personnel in a police department, but it is designed to complement and add value to that work (Taylor, Boba & Egge, 2013:6). Figure 1.1 below, illustrates the potential link or relationship between crime analysis, the policing approach, and crime reduction.
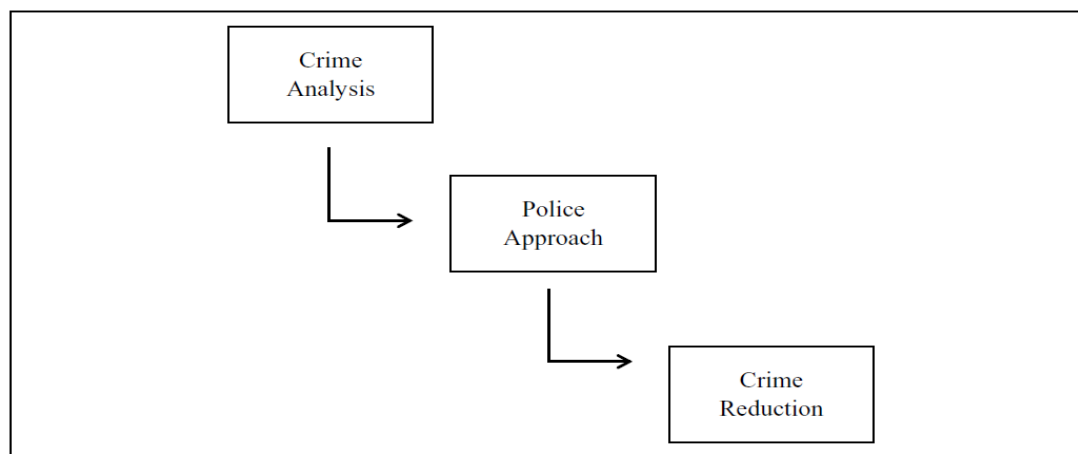
Figure 1.1: Relationship between crime analysis, the policing approach, and crime reduction

(Source: Santos, 2014:155)

Santos (2014:147) states that the connection between crime analysis and the reduction of crime is only achievable through the effective police strategies that use crime analysis. Despite the efforts of the United States (U.S.) Department of Justice, professional organisations and a variety of academics, there still is no widespread understanding and agreement about how policing strategies and approaches should be crafted and implemented. However, evidence-based policing offers a framework for developing a coherent approach through the application of sound scientific concepts and standards (Bueermann, 2012:13).

Literature Review

Evidence-based policing

Over the past several decades, there has been a growing interest in developing EBP strategies to control, reduce, and prevent crime and disorder (Sherman, 1998:3; Telep & Weisburd, 2012:8; Weisburd & Eck, 2004:57). A crucial component for the successful implementation of EBP strategies is crime analysis, which involves using quantitative and qualitative techniques to analyse data that is valuable to police agencies and their communities (IACA, 2014:2; Santos, 2014:7). Despite this, there is a notable gap in guidance and research on how to integrate crime analysis into the daily crime reduction operations of police departments.

EBP emphasises integrating crime analysis into routine policing activities. In 1975, policing predominantly used a one-size-fits-all strategy, often described as the "three Rs", namely: random patrol, rapid response, and reactive investigations. By 2012, this approach evolved into the "triple-T" model of targeting, testing and tracking, which now form the core of EBP (Sherman, 2013:3). While the standard model of policing persists, its resources are increasingly allocated based on statistical evidence. In the emerging triple-T strategy, patrol and detective managers adopt a more proactive approach to the management of police resources. Sherman (2013:3) elaborates on the triple-T strategy as follows:

1. **Target**: Police should use robust research to allocate scarce resources toward predictable concentrations of crime and disorder.
2. **Test**: After identifying high-priority targets, police should evaluate and test various methods to determine the most effective approaches for reducing harm.
3. **Track**: Police agencies should generate and utilise internal evidence to monitor the implementation and outcomes of these tested practices, including public perceptions of police legitimacy.

The growing adoption of targeting, testing and tracking principles has shaped what is increasingly known as EBP. Klose (2024:1-2) defines evidence-based policing as a decision-making process that integrates the best available evidence, professional judgment, community values, preferences, and circumstances. This definition positions EBP as a research-informed, practitioner-centred, and community-oriented approach to policing practice. EBP is analogous to evidence-based medicine, as it applies measures based on robust evidence of their effectiveness in addressing real problems. Sherman (1998:3) asserts that EBP uses research to guide practice and evaluate practitioners. It uses the best evidence to shape the best practice. This approach assumes a sceptical attitude towards traditional methods that lack systematic evidence of their effectiveness (Bullock, Clarke & Tilley, 2006:10). By integrating research findings with professional expertise and community insights, EBP seeks to enhance the effectiveness and legitimacy of policing practices. It challenges the status quo by promoting strategies that have been empirically validated, ensuring that police work is both effective and responsive to the needs and values of the community.

Problem-oriented policing (POP) is a primary source of EBP that emphasises the assessment of problem-solving responses as a crucial element of the process. POP was conceptualised by Herman Goldstein, who first proposed the idea in 1979 and expanded it into a comprehensive manifesto in 1990 (Goldstein, 1990:39). Goldstein's use of the term 'knowledge' rather than 'evidence' underscores the broader concept of 'knowledge-based policing' which refers to using research, intelligence, and technology to inform policing practices (Bullock et al., 2006:10; Williamson, 2008:6). The best-known model for POP is scanning, analysis, response, and assessment (SARA). Although SARA has been criticised for oversimplifying complex processes that do not always follow a linear progression, it effectively encapsulates the logic of POP, and underscores the importance of using and generating evidence (Bullock et al., 2006:2).

Goldstein (1990:39) argues that police officers often lack access to a robust body of evidence regarding the behaviours and problems they are expected to address. This lack of evidence contributes to the uncertainty police face when dealing with problems. Various authors have highlighted the significance of having a collective body of knowledge for addressing crime problems and for facilitating the implementation of problem-oriented responses (Eck, 2003:np; Goldstein, 2003:13; Hoare, Stewart & Purcell, 1984:np; Irving & Dixon, 2002:np; Scott, 2000:45; Townsley Johnson & Peace, 2003:183).

Bullock et al., (2016:2) note that while there is a broad agenda for evidence-based practice in public policy, numerous obstacles hinder its realisation, especially within policing. There is limited evidence on the effectiveness of interventions for common police problems, and existing evidence is often not presented in a manner that is accessible to police officers and their partners. Additionally, there are competing views on what evidence-based work should entail, thus changing existing traditional practices is challenging. Therefore, both the police service and the research community must address these issues to facilitate the development of evidence-based practice in policing.

Over the past two decades, various conceptions of professionalisation have emerged, driven by calls for modernisation and reform from stakeholders, including the government and policymakers. These include the SARA model from Goldstein's POP, performance management, intelligence-led policing, and community-oriented policing (Goldstein, 1990:2; Ratcliffe, 2016:70; Savage, 2007:np; Sklansky, 2013:343-354). Efforts to implement these approaches have been met with partial success, often due to resistance from within the police force, particularly regarding the uptake of academic research (Canter, 2000:25; Thacher, 2008:47). Expanding the scope of EBP is crucial for understanding modern policing problems in order to apply effective solutions amid financial austerity, to transform policing into a more legitimate and respected profession (Knutsson & Tompson, 2017:3; Lum & Koper, 2024:3; Neyroud & Weisburd, 2014:288; Sherman, 2015:np).

Evidence-based policing values the use of research, science, evaluation, and analysis to inform decision-making within police organisations. This research can cover a wide range of activities, from evaluating specific interventions to addressing broader issues of management and governance (Lum & Koper, 2024:1). Sherman (1998:3) argues compellingly, that police practices should be based on scientific evidence of what works best and should emphasise the need for rigorous evaluations of policing tactics and strategies to guide decision-making. As Lum and Koper (2024:4) observe, evidence-based policing has the potential to influence organisational and cultural forces that inhibit both growth and a dynamic learning environment in policing. Neyroud and Weisburd (2014:290) identify key structural reasons for the persistent disconnect between evidence and practice, by noting that the police operate in environments requiring rapid decision-making where financial and efficiency concerns are as critical as their effectiveness. Academic research often overlooks these practical aspects, delivering results that are either too late or irrelevant to police managers. To address this, Neyroud and Weisburd (2014:290) propose a new paradigm that changes the relationship between science and policing, demanding that police adopt and advance evidence-based policy, and that universities actively participate in police practice, so that the ownership of police science shifts from universities to police agencies. This shift would facilitate the implementation of evidence-based approaches and would integrate research with practice.

The literature on evidence-based policy highlights several mechanisms to support effective research use, including dissemination, interaction, social influence, facilitation, incentives and reinforcement (Nutley, Walter & Davies, 2007:132). Dissemination involves presenting research in formats tailored to target audiences. Interaction focuses on developing stronger links between researchers, policymakers, and practitioners through partnerships and collaborations. Social influence relies on experts and peers to inform and persuade individuals of research value, by recognising that people often rely on colleagues for knowledge when undertaking routine tasks. Facilitation enables research use through technical, financial, organisational, and emotional support, such as professional development activities that equip individuals to use research. Incentives and reinforcement use rewards and control mechanisms to encourage research use, such as providing additional funding for academics engaging with practitioners to ensure the effective communication of findings (Nutley et al., 2007:132).

In their reflections on evidence-based policing in the US, Lum and Koper (2024:10) pose the question: "*What would an evidence-based policing agency look like*?". Based on three decades of research, Lum and Koper (2024:10) suggest such an agency would prioritise the proactive problem-oriented policing of crime hotspots; support problem-solving approaches involving multiple agencies in local communities; focus on due process, respectfulness and fairness in citizen interactions based on procedural justice principles; assess and evaluate tactics and strategies using the organisation's analytical capacity for data collection, analysis, and evaluation; implement systems and procedures for

using research evidence in organisational functions, from managerial meetings to promotions and standard operating procedures, and would incorporate research into training and professional development.

According to Lydon (2023:268), EBP involves translational criminology, which is the process of turning research products into practical outputs, tools, programs, interventions, and actions. EBP also encompasses the translation, use, implementation, and institutionalisation of these research products. This reflects the ultimate goal of the EBP movement, namely, to integrate a specific version of knowledge production and its evidence base with policing policies, management, and practices on a global scale (Piza & Welsh, 2022:46).

A major challenge for police science is finding how to support informed police decision-making amid increasing public and political pressures for quick fixes. The police, now more than ever, need a robust knowledge base for professional practice that informs a vision of good policing in democratic societies, through the promotion of better public security for crime reduction, enhanced social justice and the protection of liberty and human rights. Evidence-based Policing can contribute to police education, and policy and training that fosters the intellectual development, critical thinking, and problem-solving skills of those working in and with police organisations (Pepper, Rogers & Martin, 2020:94).

As with other professions, fully integrating EBP into routine policing and accepting it as a fundamental part of the policing philosophy is crucial (Pepper et al., 2020:95). While this integration is more evident in some police departments and countries, EBP remains relatively new in South Africa. Police officials are increasingly required to base their policies and practices on evidence, with EBP as the current standard method. However, there is a lack of capacity within the SAPS to identify and integrate research outcomes into strategies and practice (Claasen, 2019:np). Despite the slow uptake of EBP in South Africa, this paper aims to highlight the role that the crime analysis unit within the SAPS can play in advancing EBP in the country.

Crime Analysis

Crime analysis is a critical component of effective EBP strategies and is defined as "the qualitative and quantitative study of crime and law enforcement information in combination with socio-demographic and spatial factors to apprehend criminals, prevent crime, reduce disorder, and evaluate organisational procedures" (Boba, 2001:10-11). To implement EBP strategies, crime analysis is essential, as it leverages data to better direct patrols and investigations, and enhance crime prevention efforts. Proactive policing relies on data and analysis to identify crime-generating places, people, and situations (Weisburd, Majmundar, Aden Braga, Bueermann, Cook & Tyler 2019:145).

Crime analysts play a crucial role in driving EBP within police services. They synthesise crime data and research knowledge, translating them into actionable intelligence for police operations. By tracking crime patterns and assisting decision-makers, analysts provide targeted solutions at both tactical and strategic levels. Despite their potential, crime analysts are often underutilised and poorly integrated into policing organisations. Barriers include scepticism about analytical work, organisational hierarchy, a lack of support for innovation, and limited training. Crime analysts contribute to hotspot policing strategies by identifying high-crime areas and recommending targeted interventions. Their contributions also assist in focused deterrence initiatives aimed at reducing specific types of crime by addressing the underlying causes, and using data-driven approaches to identify and address recurring problems (Bland, Ariel & Ridgeon, 2022:41).

Although there is limited research on crime analysis itself, prior studies on strategies that incorporated crime analysis as part of the police problem-solving toolkit are readily available. Evidence-based practices such as hot spots and focused deterrence use crime analysis and mapping to identify short and long-term problems (Braga, Papachristos & Hureau, 2014:634; Braga, Weisburd & Turchan, 2018:240). Research articles by Santos (2018); Smith, Santos and Santos (2018), and Zidar, Shafer and Eck (2018) in a special edition of *Policing: A Journal of Policy and Practice* illustrate the current state of crime analysis in U.S. police departments. These studies contribute significantly to the limited research on crime analysis and provide crucial evidence for integrating evidence-based strategies into policing. Smith et al., (2018:303) used data from a 2008 Police Executive Research Forum survey of over 1,000 agencies to evaluate the integration of crime analysis. Smith et al., (2018:303) found that 47.9% of agencies had at least one full-time employee dedicated to crime analysis, which was a key predictor of its effective integration. Additionally, accountability at all levels strongly predicted successful integration, which supports the Stratified Model that proposes it as a mechanism for embedding problem-solving within agencies. Understanding organisational attitudes is crucial for the successful integration of crime analysis. Santos (2018:np) assessed whether agency perceptions changed after implementing the Stratified Model in the Walton County Sheriff's Office (WCSO). This implementation involved producing actionable materials by crime analysts, and holding weekly and monthly accountability meetings. The

research measured changes in the perceptions of leadership, accountability, communication, transparency, and proactive policing strategies.

The research by Zider et al., (2018:317) examined the practical application of crime analysis, and revealed that different perspectives can significantly influence how the police tackle crime problems. Their study documented the realistic and often non-linear process of crime analysis, which may involve multiple consultations with stakeholders and place managers. Boba and Santos' (2015:5) Stratified Model of policing offers a promising framework for integrating evidence-based practices and crime analysis into police departments. While it is essential to adopt evidence-supported practices cautiously, hiring a full-time crime analyst and enhancing communication, transparency, and accountability are low-risk strategies for crime reduction (Robbins, 2024:np).

Research Methodology

This research employed a qualitative case study design to investigate the role of the Crime Information Management and Analysis Centre in advancing EBP within the SAPS. The qualitative research approach, which aligns with anti-positivist paradigms, and encompasses a broad range of interpretive techniques aimed at decoding, translating, describing, and explaining the meanings of phenomena (Berg & Lune, 2012:3; Lune, Pumar & Koppel, 2010:80; Van Wyk, 2010:16). This approach is particularly useful for exploring and understanding the meanings individuals or groups ascribe to previously unaddressed social or human problems. In-depth interviews were conducted with 48 participants who consisted of: 5 from the National and Provincial Crime Registrar (Sample A), 12 CIMAC members (Sample B), 7 station commanders (Sample C), 9 VISPOL heads (Sample D), 13 detective commanders from Tshwane policing district in Gauteng (Sample E), and 2 members of the International Association of Crime Analysts (IACA) (Sample F).

By adopting a qualitative and interpretive approach, the researchers aimed to capture participants' perceptions and experiences. Data analysis involved a thematic analysis, and included the preparation of field notes and transcripts, initial theme identification, and systematic coding. Consistent with the qualitative research approach of this study, a combination of data analysis methods were used including thematic, content, and convergent analysis. In content analysis, specific characteristics were determined only after carefully scrutinising and dissecting the body of information in order to identify and count potentially meaningful characteristics and themes (Anderson, 2014:240; Welman, Kruger & Mitchell, 2012:214). This process facilitated the grouping of data into categories and themes, enabling the comparison and extraction of overarching concepts. The findings were presented through quotes, tables, and written interpretations. Data validation was ensured through member validation, verification, comparison of explanations, and the triangulation of data collection methods.

Results and Discussions

The role of the crime analysis unit within the SAPS

The concept of crime analysis is relatively new to the SAPS. Despite this, South Africa has implemented legislation supporting crime information analysis (Mashiloane, 2014:108). Within the SAPS, the Crime Registrar unit is tasked with crime analysis, by using controlled and scientific methods to provide validated and reliable crime information. This unit operates at all organisational levels and reports to the National Commissioner. At the police station level, crime information analysis is handled by the CIMAC. The goal of crime analysis is to deliver timely and relevant information on crime patterns and trends derived from police reports (Horne, 2009:69-70; Wortley & Maserolle, 2008:1-2). According to Ratcliffe (2007:13); Taylor et al., (2013:6); Santos (2014:149); IACA (2014:2) and Bruce (2017a:6) the results of crime analysis support criminal investigations, the arresting of criminals, prosecution, crime reduction, resource deployment planning, crime prevention and suppression, and the evaluation of police operations.It also plays a crucial role in evaluating departmental policies and strategies (Boba, 2001:10-11; Bruce, 2017a:6; IACA, 2014:2; Mashiloane, 2014:112; Ratcliffe, 2007:13; Santos, 2014:149; Taylor et al., 2013:6).

The participants in the study generally conceptualised crime analysis as a multifaceted approach to studying and understanding crime. The most frequently cited themes included analysing the fundamental aspects of crime such as the who, what, where, when, and how, and establishing the modus operandi of suspects. Many participants also emphasised the importance of creating a comprehensive picture of the crime situation, identifying crime patterns, and studying past crimes. Notably, the responses from international participants highlighted technological and methodological aspects that align with the broader understanding shared by South African participants. Overall, the responses of the participants reflected a robust grasp of crime analysis as both a methodological approach, and as a tool for enhancing policing strategies.

Crime analysis has been linked to lower crime rates, better resource allocation, and more effective policing policies, particularly in departments that utilise it for decision-making (Kringen, Sedelmaier & Elink-Schuurman-Laura, 2016:1). It provides timely, relevant information on crime patterns and trends derived from police reports (Horne, 2009:69-70; Wortley & Maserolle, 2008:1-2). According to Ratcliffe (2007:13), Taylor et al., (2013:6), Santos (2014:149), IACA (2014:2), and Bruce (2017a:6), crime analysis supports criminal investigations, arrests, prosecutions, crime reduction, resource deployment planning, crime prevention, crime suppression, and evaluation.

The international participants provided detailed explanations of their views on how crime analysis is used in policing:

> *"Crime analysis is used to support police in their investigations and operations. Examples include identifying new lines of inquiry or designating areas where patrols should concentrate to reduce crime".* (Participant F1)

> *"It's amazing how much emphasis is placed on the reports and products supplied by crime analysts. In the U.S, specifically, they rely on analysts daily to provide reports and feedback on the prior 24 hours, a week, or patterns that were identified and threats for the coming week. Analysts in the USA play a very active role in policing".* (Participant F2)

The primary purpose of crime analysis is to support police operations, including their investigations, apprehensions, prosecutions, patrols, crime prevention, and evaluation efforts (Santos, 2017:6-7). Recognised as essential by government, policing and academic communities, crime analysis plays a central role in evidence-based policing. The participants in the study were asked: "*In your opinion, what is the purpose of crime analysis?*". Their responses provided diverse perspectives, identifying key themes such as guiding operational members and strategic decision-making. Many participants highlighted the role of crime analysis in providing comprehensive crime data and context, and aiding in the understanding of crime formation, planning, and allocating resources by providing detailed explanations of crime events, including timings and locations. Additionally, the participants noted that crime analysis aids in identifying hotspots, understanding crime patterns, and advising management. The participants emphasised the importance of the purpose of crime analysis in combating crime and protecting the community by offering insights into crime trends, suspect behaviours and problematic areas. The analysis of the participants' responses supports its role in daily operations and resource allocation, as it is understood to enhance the understanding of criminal activities by providing valuable feedback to detectives.

International participants provided detailed explanations of their views on the purpose of crime analysis:

> *"Using available technology and skills to make sense of large data sets related to crime, in order to provide actionable intelligence to the stakeholders. Basically, to make sense of the information available, to point the police in the right direction to disrupt, deter, or detain the offenders".* (Participant F1)

> *"The purpose of crime analysis would be to identify crime problems that are of significant nature, that require intervention and research by the unit or department, in order to identify the problem and the risks involved, conduct research and assessment specifically pertaining to that crime problem, and then provide recommendations to address that specific crime problem. Thereafter, to assess the actions that were taken, if that was successful or not".* (Participant F2)

The participants were also asked how crime analysis is utilised within the SAPS. The participants responses varied, but several key themes emerged. The majority of the participants highlighted that crime analysis is primarily used for guiding crime prevention efforts, including identifying hotspots and advising on resource allocation and operational planning. Additionally, some participants emphasised role of crime analysis in planning, such as in the development of operational strategies and in the allocation of resources. The use of crime analysis for operational purposes was noted by several participants, who reflected the integration of crime analysis into daily routines and operational briefings. Overall, the participants viewed crime analysis as essential for crime prevention, operational planning and understanding crime patterns.

The participants from Sample B were asked, "*At your police station, who are the users of the crime analysis products produced from the CIMAC office?*" The participants responses included: detectives (11), station commanders (9), Division Visible Policing (VISPOL) (9), the crime prevention unit (6), Community Police Forum (CPF) (2), Management Information Centre (MIC) (1), reservists (1), all components head (1), and all stakeholders (1). Figure 1.2 below depicts the participants' views.

USERS OF CRIME ANALYSIS PRODUCTS PRODUCED BY CIMAC OFFICE

Figure 1.2:   **Users of crime analysis products as produced by the CIMAC office**

(Source: Feedback from the participants)

The majority of the participants identified detectives, VISPOL, station commanders, and the crime prevention unit as the primary users of the crime analysis products produced by the CIMAC. The purpose of crime analysis is to assist police officials and organisations in preventing crime, suppressing criminal activities, reducing disorder, and apprehending criminals. To achieve these goals, it becomes the responsibility of detectives, VISPOL, station commanders and the crime prevention unit to utilise the crime analysis products at their police stations. The participants from Samples C, D, and E were asked, "*In your opinion, do you think crime analysis products from the CIMAC have an impact on your daily activities?*". Their responses are illustrated in Figure 1.2 below.

Figure 1.2:   **Impact of crime analysis products on participants' daily activities**

(Source: Feedback from the participants)

The analysis of the participants' responses revealed that the majority of the participants acknowledged the impact of the CIMAC's products on their daily activities. However, a minority disagreed, with one participant providing no explanation and two citing the non-receipt of these products as the reason. Another participant noted a lack of follow-up on information shared at Station Crime Combating Forum (SCCF) meetings, leading to inaction. These responses suggest that certain police stations either do not use the CIMAC's crime analysis products effectively, or at all. The analysis of the participants responses imply that if these products were properly utilised, they could significantly aid in crime suppression, prevention, and criminal apprehension.

All the participants in Samples A, B, C, and D unanimously agreed that crime analysis plays a role in crime prevention. When asked about the specific roles of crime analysis, their diverse responses highlighted several key functions. Participants from Sample A emphasised the importance of guiding the deployment of operational members, identifying hotspot areas, informing proactive policing, and presenting the crime picture. Sample B participants echoed similar sentiments, and focused on briefing members about crime, directing patrols, and ensuring intelligence-driven operations. Sample C participants underscored the guidance provided by crime analysis, highlighting its role

in directing police efforts, offering crime statistics, and assisting in crime reduction. Sample D participants noted the significance of providing analysed crime information to guide information on crime hotspots and criminal methods, and for monitoring crime trends. Collectively, these responses illustrate that crime analysis is integral to deploying resources effectively, predicting crime occurrences, and informing police strategies. By offering detailed insights into crime patterns, hotspots and trends, crime analysis enables law enforcement to target their efforts more efficiently, ultimately contributing to the reduction and prevention of crime.

The participants in Samples A, B, C, and D were asked *"In your opinion, do you think crime analysis plays a role in crime prevention?"*. They unanimously responded with a "yes", affirming that crime analysis plays a role in crime prevention. The participants from Samples A, B, C, and D were also asked: *"What is the role of crime analysis in crime prevention and reduction?".* The responses from the participants highlight a comprehensive understanding of the role of crime analysis in crime prevention and reduction. Participants consistently emphasized the importance of crime analysis in guiding the deployment of operational members to crime hotspots and informing crime prevention strategies, as seen in these statements "*To guide the deployment of operational members*" (Sample A), and "*To assist crime prevention to deploy more members in areas with high crime or hotspots*" (Sample B). Additionally, the participants noted the value of crime analysis in providing crime statistics and intelligence, thereby facilitating proactive and intelligence-driven operations. This aligns with Santos' (2014:147) discussion on the critical role of crime analysis in shaping effective policing strategies. The practical perspectives of the participants, as reflected in their responses, underscores their practical experience and frontline engagement with crime prevention efforts, contributing to a nuanced understanding of the operational application of crime analysis.

The participants in Sample E were also asked: "*What is the role of crime analysis in investigation and detection of crime?* The majority of the participants highlighted role of crime analysis in tracing and identifying suspects through modus operandi, and several participants noted, assisting in tracking and identifying correct suspects, tasking detectives according to crime tendencies, providing direction for investigations, aiding in suspect convictions, offering crucial information on crime patterns, assisting in suspect sentencing, ensuring positive crime detection, and establishing linkages. The broad understanding of the participants suggests that crime analysis is vital in informing investigative directions and enhancing crime detection capabilities. Moreover, participants suggested that for crime analysis to be effectively utilised in investigations, the SAPS should establish a dedicated task team for crime analysis reports and ensure that investigating officers receive in-service training on crime analysis.

The international participants from Sample F provided additional insights, noting that crime analysis should involve interpreting all data collected during investigations and tailoring its application based on the specific crime and issues to be addressed. This perspective was not reflected in Sample E responses, which focused more on the information flow from crime analysis units to detectives rather than on reciprocal information sharing. The analysis of the participants' responses indicated a comprehensive understanding among participants of the critical role crime analysis plays in crime prevention, detection, and investigation. The participants also highlighted the need for improved integration and training within the SAPS to maximise the effectiveness of crime analysis in law enforcement efforts.

The role of the SAPS CIMAC in advancing EBP

Kriegler (2023:np) confirms that in South Africa, data-led policing involves crime pattern and threat analyses, which use information from incident records, crime scenes, evidence, case dockets and offender analysis to guide operations. The CIMAC within the SAPS manages these analysed crime products. According to Kriegler (2023:np), this information is crucial for EBP, which uses such data for systematic causal analyses. The CIMAC's role in advancing EBP can be illustrated using the POINT model.

Problem identification

The police are traditionally seen as crime experts who lead crime prevention in neighbourhoods or in microgeographic hot spots (Gill, Weisburd, Nazaire, Prince & Gross Shader, 2023:1). Sekhukhune (2017:11) asserts that crime analysts should be the crime experts at police stations, and should be knowledgeable about the what, when, where, why, who, and how of priority crimes in their jurisdiction. Utilising the CIMAC's crime statistics at the station level is crucial for determining the timing, location, and methods for deploying police resources effectively (Sekhukhune, 2017:4). Modern policing has moved beyond random patrols, relying instead on detailed and accurate information about specific crime occurrences.

Addressing crime precisely is challenging. Statistically analysed crime information from the CIMAC is vital for both reactive and proactive policing, as it helps to detect and identify emerging crime patterns, hotspots and modus operandi (Sekhukhune, 2017:4). Eck (2015:224) emphasises that the police alone cannot address all the issues causing crime at hot spots, which further highlights the need for expertise from other stakeholders. Research supports involving a diverse range of stakeholders, including residents, community leaders, social services, and governmental institutions in collaborative crime problem-solving efforts (Gill et al., 2023:3).

In EBP, the CIMAC plays a critical role in problem identification due to their familiarity with local crime patterns and challenges. Researcher-practitioner partnerships enhance EBP by fostering collaborative problem identification, strategy development, and implementation (Piza & Welsh, 2022:46). Maboa and Horne (2024:535) summarise CIMAC's role as ensuring crime data quality, providing an accurate crime picture, and explaining the crime situation.

Advancing EBP involves highlighting the CIMAC's responsibilities in problem identification, including crime statistical analysis to indicate crime direction, and conducting crime pattern analysis to show frequency, tendencies, and occurrences in terms of time and space. CIMAC also identifies station crime priorities, explores underlying factors for crime trends and patterns, assists with operational planning, gathers crime-related information before, during and after crimes, and identifies social challenges through the Station Intelligence Profile (SIP). Additionally, the CIMAC proactively identifies potential threats and targets, aids future crime prevention efforts, and uses informants to identify masterminds behind crimes. When the CIMAC provides this information, it can reveal the connection between increased neighbourhood patrols and decreased murder rates, guiding EBP decisions on how to address such issues effectively (Kriegler, 2023:np).

Opportunities for crime occurrences and crime enablers analysis

For a crime to occur, three elements are necessary: a motivated offender, a suitable target, and an accessible place (Tillyer & Eck, 2011:180). By understanding the geographic and temporal clustering of crime, as well as the environmental and situational factors that create crime opportunities, the police can more effectively address specific crime problems (The Matrix Demonstration Project Team, n.d.:1). The theoretical foundations of crime science includes the routine activity theory, crime pattern analysis, and the rational choice theory, all of which contribute to situational crime prevention.

Tillyer and Eck (2011:180) explain that routine activities influence criminal opportunities, affecting trends in direct-contact predatory violations. Changes in routine activity patterns can influence crime rates by affecting the convergence of motivated offenders, suitable targets, and the absence of capable guardians. The absence of any of these elements can prevent crime. Routine activities theory has been used to explain various phenomena beyond crime rates, including crime distributions across geographic units and individual differences in victimisation. Crime science emphasises understanding crime and its control through context, causal mechanisms, and outcome patterns derived from empirical data. It aims to explain crime and its causes, to prevent crime through situational and design interventions, aid in crime investigation, and encourage police to value data, hypothesis testing, bias control and knowledge establishment (Brown, Belur, Tompson, McDowall, Hunter & May, 2018:43).

Effective crime control strategies, informed by scientific evidence, can help local officials create safer communities (Bueermann, 2012:13). Crime analysts from the CIMAC conduct environmental scanning to explain the crime situation and picture. In advancing EBP, the CIMAC can identify repeat victims, offenders and crime locations. Govender (2011:121) suggests that geographically coded information from police records can detect crime trends, confirm the presence of suspects, and identify areas for focused patrols. Environmental scanning examines physical features contributing to crime in specific areas.

The CIMAC can advance EBP by identifying causal factors and opportunities for crime within the station area, updating the station's intelligence profile, identifying habitual and serious offenders and conducting risk assessments. When conducting environmental scanning, crime analysts can pinpoint factors contributing to crime. For example, if an area is divided into two zones with different levels of police patrols, comparing burglary rates after a set period can establish a causal link between increased patrols and reduced crime (Kriegler, 2023:np). CIMAC crime analysts help conceptualise crime problems and develop theoretically informed responses, thereby enhancing the overall effectiveness of crime prevention strategies.

Insight, knowledge management, and sharing

Policing is increasingly an information-rich practice where effective knowledge sharing within and between police organisations is essential for its success (Griffiths, Birdi, Alsina, Andrei, Baban, Bayerl & Bisogni, 2016:268).

Ratcliffe (2016:70-74) defines information as data that is contextualised and empowered with learning, making it more relevant and purposeful; whereas knowledge is interpreted information understood by individuals. When a person adds wisdom to information, it becomes knowledge. In a police context, knowledge sharing involves handling crime reports, criminal intelligence, policy updates, legislative changes, technology usage, lessons learned, professional development, good practices. and organisational performance (Griffiths et al., 2016:269). Essentially, knowledge sharing is the exchange of potentially valuable information between parties, involving both the seeking and providing of knowledge.

Knowledge sharing is crucial in minimising errors and preventing inefficiencies across different branches of an organisation. Learning from successes, failures and difficulties is cost-effective, as it prevents the repetition of mistakes (Poblete, 2013:4). Consequently, knowledge sharing supports performance, innovation, and positive change in response to the escalating demands of policing (Griffiths et al., 2016:270). There is also a growing trend of collaboration between the police and non-police organisations in addressing crime and security issues. The police can now access records from insurance, educational, financial, and telecommunications institutions and vice versa. Global trends indicate a shift in policing governance, with non-police organisations increasingly assuming security roles (Marenin, 2005:124). Effective knowledge management enhances organisational competitiveness and is actively promoted within police organisations, further supporting their ability to adapt and respond to evolving challenges. Using information at the right time and for the right person, and being focused on decision-making and achieving goals to improve efficiency, constitutes knowledge management. This involves the practical application of knowledge through action. Social actors manage knowledge in almost all interactions, combining tacit and explicit knowledge daily (Vuković, 2020:17-18).

EBP advocates for sharing and integrating the best available evidence, professional judgment and community values. It is a research-informed, practitioner-centred and community-oriented approach to policing (Klose, 2024:1-2). The challenge lies in coordinating information between the police and external security organisations. Policing is knowledge-intensive, with performance determined by professional knowledge. Police officers often lack the necessary knowledge for effective action which requires extensive knowledge banks (Holgersson, Gottschalk & Dean, 2008:77). Additionally, knowledge influences the motivation to act appropriately (Holgersson, et al., 2008:78).

Currently, station CIMAC's communicates information through Station Crime Combating Forums (SCCF) meetings and on and off duty parades. In advancing EBP, the CIMAC must ensure that operational members understand its reports and products. It is the CIMAC's responsibility to explain these for better utilisation. The CIMAC commanders and analysts should brief members on crime concentrations and resource deployment, covering the what, where, when, how, and who aspects of crime. Crime analysts provide detailed knowledge of the jurisdiction and its criminals, as they understand how the police department works. The CIMAC should translate research findings for station management and operational members (SAPS, 2019:7).

Policing involves analysing different situations and environments, and making decisions using a broad repertoire of interpretations and actions. Theoretical knowledge is crucial but it must interact with practical and familiarity knowledge (Holgersson et al., 2008:82). Due to extensive documentation, officers struggle to keep up with information and incorporate it into daily work. Effective knowledge management requires helping officers to become reflective, and to develop and share knowledge (Holgersson et al., 2008:85). Resistance to knowledge improvement can lead to inefficiencies and reduce organisational benefits (Vuković, 2020:17). Govender and Pillay (2021:14) emphasises that police officials must adapt to ever-changing environments, acquiring, interpreting, sharing, and retaining information to respond to new insights.

Needs identification and research prospects analysis

Connecting science to the development and evaluation of crime control strategies requires blending local knowledge and experience with scientific evidence to create realistic and operationally sound strategies. Police and community members' understanding of local conditions, expectations and the social dynamics that contribute to crime and disorder are essential, and should not be overlooked (Bueermann, 2012:14).

EBP is an active process requiring a reciprocal relationship between research and practice to maximise benefits for policing (Huey & Mitchell, 2019:np). For EBP to reach its full potential, academic researchers must generate scientific knowledge that police practitioners consult. However, EBP remains unfamiliar to many police officers and leaders worldwide (Sherman, 2015:17). Higher-ranking officers tend to have more knowledge of EBP but often misinterpret its meaning (Telep & Bottema, 2020:np). To overcome such barriers, research projects should be designed to directly benefit police agencies (Piza & Welsh, 2022:46). Bueermann (2012:14) emphasises that while the police are

responsible for adopting evidence-based approaches, researchers must disseminate evidence-based practices effectively.

Researchers can fulfil this responsibility by producing timely and accessible reports. Most researchers write lengthy technical reports filled with scientific jargon, suitable for academics but not for practitioners and policymakers. To encourage practitioners to use their findings, researchers must make their work comprehensible. Translating scientific discoveries into policy and practice is crucial for preventing, reducing, and managing crime. Effective summaries of research efforts, outlining the issue studied, the methods used, the findings and their application to policing and crime control, could prompt local leaders to demand evidence-based approaches (Bueermann, 2012:14).

EBP aims to add evidence to policing practices, not replace experience. The original concept of evidence-based medicine emphasised blending experience with statistical evidence, not substituting one for the other. Adding EBP to police experience creates a comprehensive approach, similar to how smartphone speeds impact its access to information (Sherman, 2015:17). A good data analysis is nothing more or less than the processing of many years of experience, sometimes more than any one police officer can ever have as one person (Sherman,2015:17).

EBP suggests that major decisions should incorporate complex evidence in a 'slow thinking' mode, enhancing professionalism through more informed decision-making (Sherman, 2015:18). The perspective of police officers is shaped by their position within the organisation. Higher-ranking officers often have different realities compared to street-level and lower-ranking officers. The latter believe that their superiors focus more on economic issues and lack insight into everyday police work. The officers working at high organisational levels and with academic backgrounds often have theoretical perspectives that often diverge form the practical perspective of operational officers. (Holgersson et al., 2008:79). Police officers face challenges in determining the right actions in specific situations, often relying on information systems organised around theoretical perspectives rather than practical applications. Finding the necessary information can be difficult, potentially leading to conflicts between different laws and rules (Holgersson et al., 2008:79).

In advancing EBP, CIMAC analysts play a critical role in translating research findings into practical applications for operational members. They support operational and patrol officers, who may feel their knowledge is insufficient for certain situations. CIMAC analysts help bridge the gap between research communities and operational officers, ensuring that information is accessible and actionable.

The CIMAC can bridge the gap between officers on the ground, researchers, and high-ranking officials. Evidence-based policing is an active process requiring reciprocity between research and practice, for maximum benefits to be achieved (Huey & Mitchell, 2019:np; Piza & Welsh, 2022:48). By participating in everyday police work environments, the CIMAC reduces the knowledge gap and enhances knowledge management, reciprocity, and operational officers' confidence. Education may increase the confidence of police officers in using knowledge of what works (Sherman,2015:20). Positive working relationships characterised by attributes such as mutual respect and reciprocity lead to improved information sharing and increased levels of trust (Burcher & Whelan, 2018:10). In advancing EBP, the SAPS Division Research focuses on institutionalising and maintaining research, while the Crime Registrar research section at National and Provincial levels initiates internal research projects based on the latest crime data and integrates external research into policing. Crime analysts are exposed to and positioned to be good translators of research, as they ought to produce actionable and understandable products. Crime analysts therefore, have an important role in translating research and applying it in a police setting (Ng, 2022:65). The CIMAC at police stations can identify research opportunities, determine the needs of the station, and ensure that multidisciplinary and collaborative research is conducted. By understanding the needs and frustrations of operational members, the CIMAC builds effective relationships and trust, ensuring that research is relevant and practically applied (Jones & Gwinn,2017:31).

Trust building

Police officers have long been conditioned to prioritise responding to emergency calls over studying or reflecting on the nature of problems (Berning & Masiloane, 2012:87). As the primary responders to crime, the police must be deeply interconnected with the community to ensure effective crime prevention. A procedurally just police response requires community support and cooperation, and is rooted in feelings of obligation and trust rather than in coercion (Gill et al., 2023:29). Analysts play a crucial role in developing and maintaining positive relationships within the police department by facilitating continuous information flow among criminal justice agencies (Jones & Gwinn, 2017:31). Building confidence and trust is essential for effective communication and regional collaboration (Jones & Gwinn, 2017:31).

Effective task distribution enhances trust within and between patrols, especially in complex situations. Commanders must understand the area, recurring crimes, specific problems, and individuals to allocate tasks appropriately. Dialogue between police officers and analysts is central to fitting tasks to situations (Holgerson, Gottschalk & Dean, 2008:17-18). Crime analysts gather information from the police and share it with citizens to build partnerships and transparency (Santos, 2017:67). In advancing EBP, the CIMAC can build trust by participating in ride-alongs during operations to understand the challenges faced by operational members. Explaining and understanding crime are fundamental to reducing it, as one cannot control what one does not understand (Poblete, 2013:9). By understanding the crime dynamics at their stations, the CIMAC is better positioned to provide tailored recommendations for decision-makers to address specific challenges (Govender, 2011:112). The utilisation of crime information products helps identify the conditions facilitating crime, thus enabling policymakers to make informed decisions about proactive and reactive approaches (Cordner & Scarborough, 2010:331). The CIMAC's daily interaction with both managers and operational members fosters improved relationships and communication, creating a conducive learning environment. This collaboration enhances future research and stakeholder involvement in planning and execution. Informal and formal communication between the CIMAC and other stakeholders ensures easy feedback to and from operational members, promoting continuous improvement in crime prevention strategies.

In order to understand the importance of the CIMAC at the police station, the participants from Samples A, B, C, D, and E, were asked the question: "*In your opinion, do you think the CIMAC is important in the reduction of crime?*". The participants emphasised the CIMAC's role in providing crucial information for operational guidance, such as identifying hotspots, profiling suspects and advising on resource allocation. For instance, Sample A participants highlighted the CIMAC's function in preventing haphazard crime prevention efforts by offering targeted intelligence. The participants further noted that the CIMAC's data helps direct patrols and informs strategic responses to specific crime trends. The participants also acknowledged the CIMAC's contributions to directing operations and improving intelligence on crime patterns and suspect profiles, and further appreciated the CIMAC for offering actionable insights into crime types and potential perpetrators, which aid in operational planning. The participants also stressed the value of the CIMAC in crime pattern analysis and suspect linkages, asserting that its insights directly support effective crime prevention measures. One of the international participants provided a detailed explanation of their opinion on the importance of the crime analysis unit in the reduction of crime by stating:

> "*Yes, and that could be 100% reliant on trust and the reliability of the service seeing the value of the crime analysis unit. When the value of the unit is acknowledged, then the products will be utilised way better in order to essentially get to crime reduction in the area*". (Participant F1)

The participants from Samples C, D, and E were probed about the efficiency of the CIMAC in managing and analysing crime information at their police stations. The majority of the participants affirmed that the CIMAC performs effectively, citing daily information provision, accurate data and significant operational guidance. For instance, participants from Samples C and D highlighted the CIMAC's role in daily analysis, guiding operations, and providing accurate data that aids in crime reduction. However, some participants from Sample E expressed dissatisfaction, citing issues such as inadequate resources, inaccurate information, and a lack of effective management. The participants pointed to instances where CIMAC's performance did not meet expectations, which they felt hindered their ability to stay ahead of crime. The contrasting responses suggest a disparity in the CIMAC's effectiveness across different stations, potentially due to varying levels of resource allocation and operational integration.

Benefits of using the CIMAC in EBP

The benefits of adopting a philosophy of EBP are numerous and diverse. These include establishing an evidence base for the policing profession, identifying innovative solutions through practitioner-researchers who understand workplace needs, and sharing these solutions across the service. Developing individual practitioner-researcher skills empowers police officers by exposing them to expertise within academic partnerships, and directly addressing contemporary policing realities (Pepper et al., 2020:95). For EBP to be effective in South Africa, a philosophy of making the best use of EBP must be adopted across the SAPS, with the CIMAC positioned as the catalyst for this change. The benefits of using the CIMAC in advancing EBP, includes the following:

- CIMAC analysts can be used as promoters of EBP at police stations.
- The CIMAC can do the monitoring and evaluation of the outcomes of EBP.
- Improved partnership between the researcher, police officials, and the CIMAC analyst can result in gaining an understanding, insights, and discovery of what works, and what doesn't work.

- Police officials on the ground will play an active role in the research process, including in developing the internal capacity to conduct high level evaluations.
- Assistance in the translation of research evidence for easy usage by the police.
- Improved relationship and the easy exchange of information between the CIMAC and operational members resulting in the reduced resistance of the research products.
- Crime analysts (CR and CIMAC) can help support the police management and provide objective analytical products that speak to crime challenges at all levels.

The participants in Samples A, B, C, D and E were asked "*In your opinion, what are the benefits of using crime information and analysed crime products from the CIMAC?*". Participants from Sample A emphasised the ability to detect modus operandi, deploy members effectively, guide crime prevention operations, predict outcomes, assist detectives, and understand crime patterns. They also noted benefits for VISPOL, station management, and overall crime reduction as benefits. Sample B responses focused on direction in policing, clarity on crime occurrences, crime profiling, identifying problem crimes, station performance, hotspot concentration, and bringing perpetrators to court. Sample C participants highlighted the importance of intelligence for trend analysis, accountability, community engagement, intelligent-driven operations, and focused crime prevention as the benefits. They also mentioned the prevention and reduction of crime, and understanding modus operandi. Sample D underscored concentrating on hotspot areas, planning patrols, conducting intelligence-driven operations, measuring performance, understanding crime patterns, proactive actions, and operational planning. Sample E echoed these points, further emphasising crime prevention, suspect arrest guidance, tracing suspects, achieving good convictions, crime detection, focused investigations, production boost, and locating perpetrators. When emphasising the benefits of using analysed crime information from the CIMAC, one participant from Sample A reported that:

> "*It will be the information from CIMAC that would give guidance to crime prevention operations as to where the operations need to be conducted. When, how, and in how much capacity in terms of personnel and the physical resources in the station*". (Participant A 1)

Another participant from Sample D mentioned:

> "*Yeah, we are able to measure ourselves, that we are winning crimes or there is a reduction*". (Participant D1)

At the same time, one participant from Sample E averred:

> "*If the analysis was perfectly done, you can have very good convictions through CIMAC*". (Participant E3)

The two international participants (Sample F) offered their opinion on the benefits of using crime information, and analysed crime products from the Crime Analysis Unit by stating:

> "*To save on money, time, and resources by pointing police in the right direction to disrupt, deter, or detain offenders*". (Participant F1)

> "*It provides a background to the problem. Apart from accurately describing the specific problem and the context that surrounding that specific problem, it provides a foundation for law enforcement to act on, in addressing that crime problem*". (Participant F2)

The participants' responses demonstrate a comprehensive understanding of how the CIMAC's products enhance crime prevention, detection, and reduction efforts. The participants underscored the practical benefits of using crime analysis for strategic deployment, informed decision-making and targeted crime prevention operations. The alignment of these practical insights with academic discussions further validates the effectiveness of the CIMAC's products in improving law enforcement outcomes and resource management. It is evident from the afore-going discussions that the CIMAC is vitally useful in crime reduction and prevention.

To advance effective EBP and crime reduction, it is essential to commit to generating evidence about the impact of interventions in the policing field. This includes facilitating the production of broader knowledge, such as the processes and practices involved in crime prevention work. Additionally, it is crucial to routinely integrate evidence-based practices into police routines. This means engaging with research literature, reflecting on current policing practices in light of research, and maintaining an open mind about practices and processes. Recognising and supporting progress, and good practices in this area is also vital. Furthermore, managing expectations about achievable outcomes and timelines is necessary to mitigate inevitable disappointment.

The shift towards EBP, by focusing on identifying targets, risks, and threats has led to the emergence of crime analysts with specialised analytical skills. These analysts transform raw data into actionable crime information used for predicting and managing crime (Sanders & Condon, 2017:237). Crime analysts synthesise, articulate, and visualise crime data for the police, consequently providing information that becomes actionable through the interpretive work of police managers and officers (Sanders & Condon, 2017:248). Crime analysis supports traditional police practices without challenging them, instead it reinforces the symbolic nature of policing (Sanders & Condon, 2017:248).

In the SAPS, the CIMAC plays a critical role in supporting police stations by conducting crime analysis and providing a comprehensive crime picture. The effectiveness of crime analysis units depends on how they are administered (Bruce, 2017b:24). For the CIMAC to be effective, continuous communication and requests for analysed crime information from the CIMAC's clients is essential. Feedback mechanisms are also vital to improve service delivery. All role players must understand CIMAC processes, functions, roles, and responsibilities. Based on literature and participant interviews, a conceptual framework illustrating the effective use of the CIMAC in the SAPS, within EBP in South Africa has been developed, as depicted in Figure 1.3 below. This framework emphasises the need for integrated efforts and continuous feedback to enhance the CIMAC's effectiveness in supporting police objectives in advancing EBP.
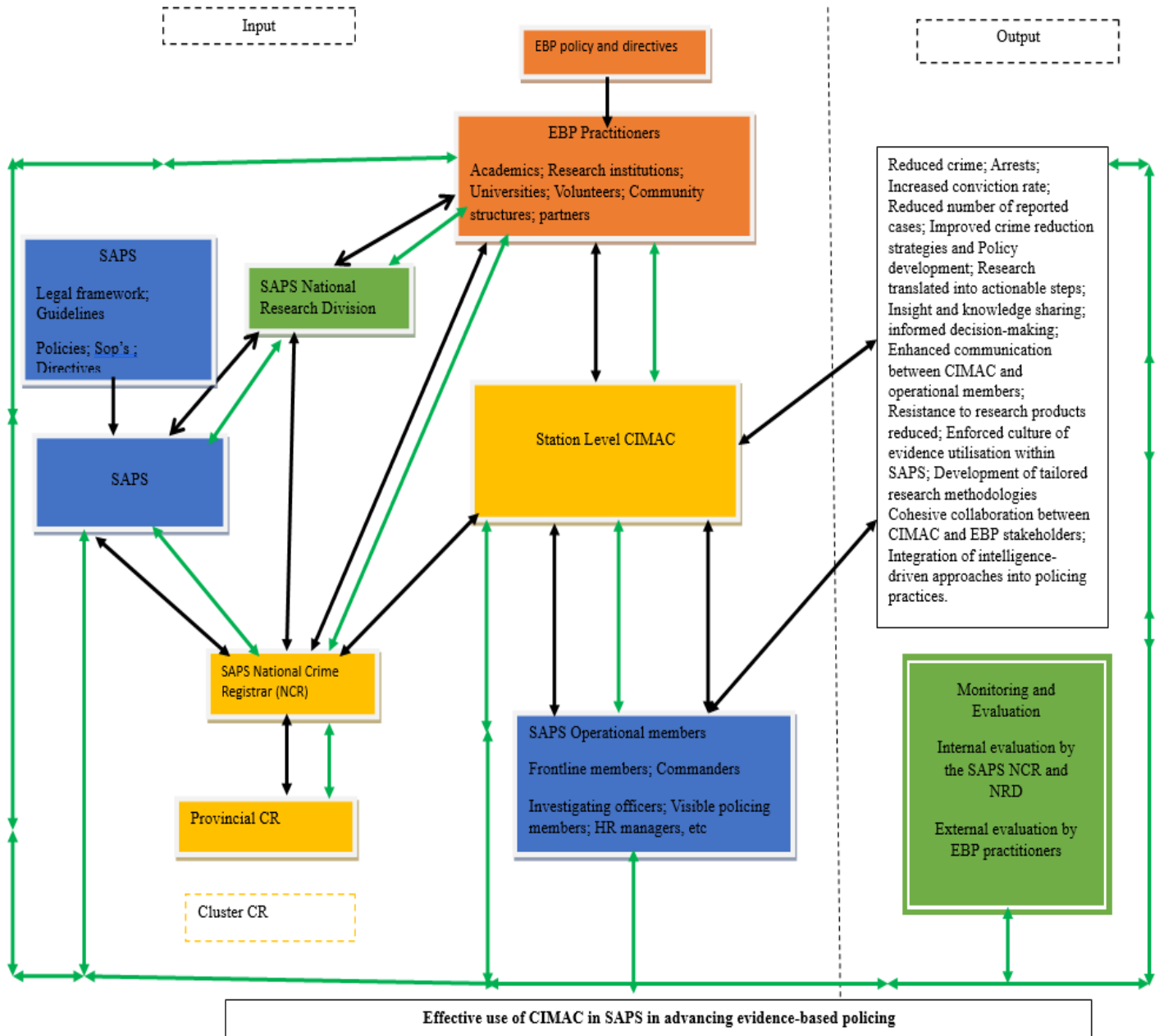
Figure 1.3: Effective use of the CIMAC in the SAPS to advance evidence-based policing

(Source: Developed by authors)

Recommendations

It is recommended to enhance the effectiveness of EBP through the active involvement of the CIMAC. This involvement is crucial to ensure that research is tailored to the specific needs of each police station. Coordinated efforts between station-level CIMAC, EBP researchers, and academics is essential for enforcing, commanding, and directing policing responses within the precinct. It is recommended that the National Crime Registrar, the Provincial Crime Registrar and the CIMAC develop contingency plans, strategies, and approaches based on intelligence and evidence to ensure appropriate responses to crime.

Additionally, it is recommended to establish a robust reporting structure for EBP research projects, findings, and recommendations at all levels of policing. Developing and adhering to policies, procedures, guidelines, and SOPs is vital for the effective use of EBP in policing. It is also recommended to establish clear processes and procedures for requesting information from the CIMAC, and for providing feedback after utilising EBP research information. Furthermore, it is recommended to involve CIMAC analysts in evaluations for them to be able to provide contextual knowledge of internal policing, to make EBP research findings more actionable and relevant.

Conclusion

In conclusion, addressing the persistent challenges of crime reduction in South Africa demands a dynamic and multifaceted approach from the SAPS. Despite the deployment of various policing models such as Intelligence Led Policing, Problem Oriented Policing, Community-based Policing, and Sector Policing, their effectiveness remains unclear due to inconsistent documentation and persistently high crime rates. Evidence-based policing emerges as a promising framework for evaluating and optimising these strategies through rigorous scientific analysis. Rather than being a standalone model, EBP provides a method for assessing the efficacy of existing strategies, and for enabling informed decision-making and resource allocation. The integration of CIMACs is vital in this context, as they offer the necessary crime data analysis to inform and refine policing approaches.

This paper underscores the benefits of integrating EBP within law enforcement, particularly highlighting CIMAC's role in advancing EBP within the SAPS. Evidence-based policing enhances policing professionalism by establishing a robust evidence base and fostering tailored, innovative solutions to real-world challenges. The effective implementation of EBP within the SAPS requires leveraging the CIMAC's capabilities through a comprehensive approach. The findings reveal that the CIMAC's role in advancing EBP includes problem identification, knowledge management, insight sharing, needs identification, research prospect analysis, and trust-building among researchers, the community, and the police. The CIMAC's involvement in EBP offers several advantages, including leading the adoption of EBP at police stations, ensuring accountability and effectiveness through rigorous monitoring, and evaluating and fostering collaboration among researchers, police officials, and CIMAC analysts. Furthermore, the CIMAC empowers frontline police officers to engage in research activities, enhancing internal evaluation capabilities. The CIMAC also plays a crucial role in translating research evidence into actionable insights, thus facilitating informed decision-making within law enforcement. Enhanced communication between the CIMAC and operational members reduces resistance to research products, and fosters a culture of evidence utilisation within SAPS.

This paper provides recommendations to maximise the CIMAC's effectiveness within EBP, including the development of tailored research methodologies, cohesive collaboration between CIMAC and EBP stakeholders, and the integration of intelligence-driven approaches into policing practices. It underscores the importance of transparent reporting frameworks, standardised procedures, and adherence to standard operating procedures (SOPs) to facilitate EBP implementation across all levels of law enforcement. Establishing a robust reporting structure and involving CIMAC analysts in evaluations will make EBP research findings more actionable and contextually relevant. By fostering a culture of knowledge and systematic evaluation, the SAPS can improve the implementation of evidence-based strategies, ultimately leading to more effective crime reduction and enhanced community safety.

List of references

Anderson, V. 2014. *Research methods in human resource management: Investigating a business issue*. 3rd edition. London: CIPD house.

Berg, B.L. & Lune, H. 2012. *Qualitative research methods for the social sciences*. 8th edition. London: Pearson.

Berning, J. & Mashiloane, D. 2012. The use of modus operandi forms by the South African Police Service to analyse crim*e. Acta Criminologica: Southern African Journal of Criminology*, *25*(1), 83-90.

Bland, M., Ariel, B., & Ridgeon, N. (Eds.). 2022. *The Crime Analyst's Companion*. Cham: Springer Nature.

Boba, R. 2001. *Introductory guide to crime analysis and mapping*. Washington: Office of Community Oriented Policing Services.

Boba, R. & Santos, R. 2015. *A Police Organisational Model for Crime Reduction: Institutionalizing Problem Solving, Analysis, and Accountability*. Washington: Office of Community Oriented Policing Services.

Braga, A.A., Papachristos, A.V. & Hureau, D.M. 2014. The effects of hot spots policing on crime: An updated systematic review and meta-analysis. *Justice quarterly*, *31*(4), 633-663.

Braga, A.A., Weisburd, D. & Turchan, B. 2018. Focused deterrence strategies and crime control: An updated systematic review and meta-analysis of the empirical evidence. *Criminology & Public Policy*, *17*(1), 205-250.

Breetske, G.D. 2007. A critique of distance learning as an educational tool for GIS in South Africa. *Journal of Geography in Higher Education*, *31*(1), 197-209.

Brown, J., Belur, J., Tompson, L., McDowall, A., Hunter, G. & May, T. 2018. Extending the remit of evidence-based policing. *International Journal of Police Science & Management, 20(1), 38-51.*

Bruce, C.W. 2017a. Fundamentals of crime analysis: Crime analysis terms, concepts and processes 1-27. In Gallagher, K., Wartell, J., Gwinn, S., Jones, G. & Stewart, G. (Eds.), *Exploring crime analysis: Reading on essential skills*. 3rd edition. Overland Park: IACA.

Bruce, C.W. 2017b. Crime analysis data and data management (103-131). In Gallagher, K., Wartell, J., Gwinn, S., Jones, G. & Stewart, G. (Eds.), *Exploring crime analysis: Reading on essential skills*. 3rd edition. Overland Park: IACA.

Bueermann, J. 2012. Being smart on crime with evidence -based policing. *National institute of Justice, 269, 12-15*.

Bullock, K., Clarke, R.V. & Tilley, N. 2006. *Situational Prevention of Organised Crimes.* Unites States:Taylor & Francis.

Burcher, M. & Whelan, C. 2018. Intelligence Led policing in practice: Reflections from intelligence analysts. *Police quarterly, 22*(2)*, 139-160.*

Canter, D. 2000. Offender profiling and criminal differentiation. *Legal and Criminological Psychology*, *5*(1), 23-46.

Claasen, L. 2019. Evidence based policing and Crime analysis. *Servamus, Volume 112*(11), 28-30.

Cordner, G. & Scarborough, K. 2010. Information Sharing: Exploring the Intersection of Policing with National and Military Intelligence. *Homeland Security Affairs,* 6, Art 5.

Eck, J.E. 2015. Who should prevent crime at places? The advantages of regulating place managers and challenges to police services. *Policing: A Journal of Policy and Practice*, *9*(3), 223-233.

Gill, C., Weisburd, D., Nazaire, D., Prince, H. & Gross Shader, C. 2024. Building "A Beautiful Safe Place for Youth" through problem-oriented community organising: A quasi-experimental evaluation. *Criminology & Public Policy*, *23*(2), 287-325.

Goldstein, H. 1990. *Problem-oriented policing*. New York: McGraw Hill.

Goldstein, J. 2003. 'On further developing problem-oriented policing: : The most critical need, the major impediments, and a proposal. In Knuttson, J. (Ed.), *Problem-oriented policing: from innovation to mainstream. Crime Prevention Studies. Vol 15*, pp. 13-47. London: Sage.

Govender, D. 2011. *The nature and extent of problems experienced by detectives in the collection, processing and utilisation of crime information at the Rustenburg Detective Service*. MTech in Forensic investigation. Unpublished Dissertation, University of South Africa, Pretoria.

Govender, D. & Pillay. K. 2021. Policing in South Africa: A critical evaluation. *Insight on Africa*, *14*(1), 40-56.

Griffiths, K., Birdi, K., Alsina, V., Andrei, D., Baban, A., Bayerl P.S., & Bisogni, F., Chirca, S., Constanzo, P., Gascó, M. & Gruschinske, M. 2016. Knowledge sharing Practices and Issues in Policing Contexts, A systematic review of the literature. *European Journal of policing Studies*, 3(3), 267-291.

Hoare, M., Stewart, G. & Purcell, C. 1984. *The Problem- Oriented Approach: Four Pilot Studies*. Metropolitan Police Management Services Department Report Number 30/84. London: Metropolitan Police Service.

Holgersson, S., Gottschalk, P. & Dean, G. 2008. Knowledge management in law enforcement: Knowledge views for patrolling police officers. *International Journal of Police Science & Management*, *10*(1), 76-88.

Horne, J.S. 2009. Crime information analysis within a public service organisation: An assessment. *Acta Criminologica: Southern African Journal of Criminology, 22*(1), 68-80.

Huey, L., & Mitchell, R.J. 2019. An introduction. In Mitchell, R.J. & Huey, L. (Eds.), *Evidence based policing. An introduction,* pp. 3–14. Bristol: Policy Press.

IACA (International Association of Crime Analysts). 2014. *Definitions and types of crime analysis: Standards, methods & technology* (*SMT*) *committee white paper, 2014-02*. Overland Park: IACA.

Irving, B. & Dixon, B. 2002. *'Hotspotting': Turning Policing Theory Into Practice in Thames Valley and Northumbria*. London: Police Foundation.

Jones, G. & Gwinn, S. 2017. Law enforcement models. In Gallagher, K., Wartell, J., Gwinn, S., Jones, G. & Stewart, G. (Eds.), *Exploring crime analysis: Reading on essential skills*. 3rd edition, pp. 29-46. Overland Park: IACA.

Kempen, A. 2019. Crime statistics 2018/2019. *Servamus Community-based Safety and Security Magazine*, *112*(11), 10-13.

Klose, S. 2024. Re-defining evidence-based policing. *Policing: A Journal of Policy and Practice*, 18, paad095.

Knutsson, J. & Tompson, L. (Eds.). 2017. *Advances in Evidence-Based Policing*. London: Taylor & Francis.

Kriegler, A. 2023. *What does evidence-based policing offer South Africa? - ISS Africa.* Available from:https://issafrica.org/iss-today/what-does-evidence-based-policing-offer-south-africa. Accessed on 11 February 2024.

Kringen, J.A., Sedelmaier, C.M. & Elink-Schuurman-Laura, K.D. 2016. Assessing the relevance of statistics and crime analysis courses for working crime analysts. *Journal of Criminal Justice Education*, *28*(2), 155-173.

Lum, C. & Koper, C.S. 2024. Evidence-based policing. *The Oxford handbook of evidence-based crime and justice policy*, 245-264.

Lune, H., Pumar, E.S. & Koppel, R. (Eds.). 2010. *Perspectives in social research methods and analysis: A reader for sociology*. Thousand Oaks, California: Sage.

Lydon, D. 2023. Policing futures: transforming the evidence-based policing paradigm through interdisciplinarity and epistemological anarchism. *Policing and society*, *33*(3), 264-275.

Maboa, M. & Horne, J.S. 2024. Navigating the Terrain: Unravelling the Role and Challenges of the Crime Information Management and Analysis Centre within the South African Police Service. *International Journal of Social Science Research and Review*, *7*(1), 530-544.

Marenin, O. 2005. Building a global police studies community. *Police Quarterly*, *8*(1), 99-136.

Mashiloane, N.P. 2014. *The use of intelligence led policing in crime prevention by the South African Police Service*. DLitt in Police Science. Unpublished Dissertation. University of South Africa, Pretoria.

Ng. J. 2022. Crime analysis and evidence-based policing: strategies for success. In Bland, M., Ariel, B. & Ridgeon, N. (Eds.), *The crime analyst's companion,* pp. 53-71. Cham: Springer Publishing

Neyroud, P. & Weisburd, D. 2014. Transforming the police through science: The challenge of ownership. *Policing: a journal of policy and practice*, *8*(4), 287-293.

Nutley, S.M., Walter, I. & Davies, H.T. 2007. Using evidence. *How research can inform public services*. Bristol: Policy Press

Pepper, I., Rogers, C. & Martin, H. 2020. Evidence based policing: a view on its development within the police service. *Journal of Work-Applied Management*, *12*(1), 91-96.

Piza, E.L. & Feng, S.Q. 2017. The current and potential role of analysts in evaluations of police interventions: Results from a survey of the international association of crime analysts. *Police Quarterly*, *20*(4), 339-366.

Piza, E.L. & Welsh, B.C. 2022. Evidence-based policing is here to stay: Innovative research, meaningful practice, and global reach. *Cambridge Journal of Evidence-Based Policing*, *6*(1), 42-53.

Poblete, J. 2013. Governmentality and the social Question: National Formation and discipline. In Trigo, B. (Ed.), *Foucault and Latin America,* pp. 137-151. London: Routledge.

Ratcliffe, J.H. 2007. *Integrated intelligence and crime analysis: Enhanced information management for law enforcement leaders*. Washington: Office of Community Oriented Policing Services .

Ratcliffe, J.H. 2016. *Criminal intelligence manual for analyst*. Vienna: UNODC.

Robbins, T.G. *Crime Analysis as part of the Evidence-Based Policing Toolkit: Implementation, Integration and Practical Use. Continued Evidence-Based Education*. Available From: https://www.ebpsociety.org/blog/education/419-crime-analysis-as-part-of-the-evidence-based-policing-toolkit. Accessed on 21 July 2024.

Roelofse, C. & Gumbi, C. 2018. *Policing in South Africa past and present*. Johannesburg: LexisNexis.

Sanders, C. & Condon, C. 2017. Crime analysis and cognitive effects: The practice of policing through flows of data. In Amicelle, A., Cote-Boucher, K., Dupont, B., Mulone, M., Shearing, C., & Tanner, S. (Eds.), *The Policing of Flows: Challenging Contemporary Criminology*, pp. 73-91. London: Routledge.

Santos, R.B. 2014. The effectiveness of crime analysis for crime reduction: Cure or diagnosis? *Journal of contemporary criminal justice,* 30(2):147-168.

Santos, R.B. 2017. *Crime analysis with crime mapping*. 4th edition. Thousand Oaks: Sage.

Santos, R.G. 2018. Police organisational change after implementing crime analysis and evidence-based strategies through stratified policing. *Policing: A Journal of Policy and Practice*, *12*(3), 288-302.

SAPS (South African Police Service). 2019. *Annual crime report, 2018/2019: Addendum to the SAPS annual report*. Pretoria: Government Printers.

Savage, S. 2007. *Police reform: Forces for change*. Oxford: Oxford University Press.

Scott, M.S. 2000. *Problem-oriented policing: Reflections on the first 20 years*. Washington: Office of Community Oriented Policing Services.

Sekhukhune, T.N. 2017. *Answering affidavit of Thulare Sekhukhune filed on behalf of the first, second and third respondents in the equality high court (high court Cape Town). Case number: Equality court 3/2016 in the application of social justice coalition.* Cape Town: Social Justice Coalition.

Sherman, L.W. 1998. Evidence-based policing. Ideas in American Policing Lecture Series. Washington: National Policing Institute.

Sherman, L.W. 2013. The rise of evidence-based policing: Targeting, testing, and tracking. *Crime and justice*, *42*(1), 377-451.

Sherman, L.W. 2015. A tipping point for "totally evidenced policing" ten ideas for building an evidence-based police agency. *International criminal justice review*, *25*(1): 11-29.

Sklansky, D.A. 2013. The promise and the perils of police professionalism. In Brown, J. (Ed.), *The future of policing,* pp. 343-354. London: Routledge.

Smith, J.J., Santos, R.B. & Santos, R.G. 2018. Evidence-based policing and the stratified integration of crime analysis in police agencies: National survey results. *Policing: a journal of policy and practice*, *12*(3), 303-315.

Swabe, C., De Kock, C. & Currin, B. 2017. *Crime atlas provides first holistic view of crime in SA*. Pretoria: Servamus.

Taylor, B., Boba, R. & Egge, S.J. 2013. *The integration of crime analysis into patrol work: A guidebook*. Washington: Office of Community Oriented Policing Services.

Telep, C. W., & Bottema, A. J. (2020). Adopt evidence-based policing. In Katz, C.M. & Maguire, E.R. (Eds.), *Transforming the police: Thirteen key reforms,* pp. 9-25. Long Grove: Waveland Press.

Telep, C.W. & Weisburd, D. 2012. What is known about the effectiveness of police practices in reducing crime and disorder? *Police Quarterly,* 15(4):331-357.

Thacher, D. 2008. Research for the front lines. *Policing & Society*, *18*(1): 46-59.

The Matrix demonstration team, sa. Evidence-Based Policing: The Basics Study Guide**.** *Center for Evidence-Based Crime Policy, George Mason* University. Available at: https://cebcp.org/wp-content/evidence-based-policing/EBP-Guide.pdf. Accessed on 2024-01-24.

Tillyer, M.S. & Eck, J.E. 2011. Getting a handle on crime: A further extension of routine activities theory. *Security Journal*, *24*, 179-193.

Townsley, M., Johnson, S. & Pease, K. 2003. "Problem orientation, Problem Solving and Organisational Change." *Crime Prevention Studies*, *15*(2003), 183-212.

Van Wyk, B. 2010. *Research design and methods. Part 1: Post graduate enrolment and throughput*. Western Cape: University of the Western Cape.

Vuković, A. 2020. *Knowledge management concept and subculture: Police profession example*. Belgrade: Institute of social sciences.

Weisburd, D. 2024. *An evidence-based approach to using LPR.* Available From: https://cebcp.org/lpr/lpr-for-police-leadership/. Accessed on 21 July 2024.

Weisburd, D. & Eck, J. 2004. What can the police do to reduce crime, disorder, and fear? *Annals of the American Academy of Political and Social Science*, *593*(1), 42–65.

Weisburd, D., Majmundar, M.K., Aden, H., Braga, A., Bueermann, J., Cook, P. J. & Tyler, T. 2019. Proactive policing: A summary of the report of the national academies of sciences, engineering, and medicine. *Asian Journal of Criminology*, *14*, 145-177.

Welman, C., Kruger, F. & Mitchell, B. 2012. *Research methodology*. 3ʳᵈ edition. Cape Town: Oxford University Press.

Williamson, T. (Ed.) 2008. *The Handbook of Knowledge-Based Policing*. Chichester: Wiley.

Wortley, R. & Maserolle, L. 2008. *Environmental criminology and crime analysis: Situating the theory, analytic approach and application*. Cullompton, UK: Willan.

Zidar, M.S., Shafer, J.G., & Eck, J.E. 2018. Reframing an obvious police problem: Discovery, analysis and response to a manufactured problem in a small city. *Policing: A Journal of Policy and Practice*, *12*(3), 316-331.