

The Tip of the Iceberg: Exploring the Landscape of Policing in a Digitalized World

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1 Introduction

In the ever-evolving landscape of law enforcement, the advent of the digital age has ushered in transformative shifts in police practices. These shifts have sparked scholarly attention and fuelled an increased volume of research dedicated to unravelling the complex interplay between technology and policing. The surge in interest at the intersection of policing and technology has led to a diverse and intricate array of studies (see e.g. Aston et al., 2022; De Paepe & Easton, 2022; Easton, 2019; Easton et al., 2016; Easton, 2014; Elphick et al., 2021; Flinterud, 2022; Korteland & Bekkers, 2007; Lundgaard, 2023; Rønn, 2023; Van Brakel et al., 2024; Waszkiewicz et al., 2022, Wuschke et al., 2022). The research covers a broad spectrum, encompassing the utilization of bodycams and surveillance tools (see e.g. Lum et al., 2020; Maskaly et al., 2017; Miller, 2016) as well as the integration of advanced data analytics and predictive policing software (see e.g. Rummens et al., 2021; Sandhu & Fussey, 2021; Snaphaan et al., 2023). The extensive and diverse nature of research on policing and technology makes it challenging to obtain a comprehensive overview of the current research landscape. As we explore the multifaceted realm of policing and technology, it becomes evident that the studies presented here merely scratch the surface, revealing just the tip of the iceberg in our exploration of this intricate intersection.

This special issue brings together a collection of seven articles exploring various dimensions of this change, illuminating the multifaceted challenges and opportunities faced by police agencies worldwide. The articles, each offering a unique perspective, collectively contribute to our understanding of the evolving nature of police work in the digital age. Together, these

articles offer a rich tapestry of insights into the evolving landscape of digital policing internationally, addressing critical issues related to discretion, procedural justice, knowledge construction, spatial relations and the digital transformation of local police. As we delve into the nuances of these studies, it becomes evident that comprehending and adapting to the digital shift is an imperative for police agencies worldwide.

The initial point of curiosity that inspired entries in this collection is the increasingly digitized world in which we find ourselves, particularly following the Covid-19 pandemic. The rapid digital evolution of public and private organizations has transformed and expanded the delivery of services beyond traditional physical interactions and into digital spaces. In the context of public policing, we recognize that technology has long been identified as a disrupting influence on policing (Ericson & Haggerty, 1997). The articles in this collection suggest, however, that policing has entered a new phase, where policing is increasingly shaped by, and shapes, the digital landscape. Whilst some areas of police use of technology such as Body-worn camera's (e.g. Lum et al., 2020) have been relatively well researched in certain jurisdictions, many aspects of digital policing remain underexplored internationally.

As shown in this collection, the rapid adoption of new digital communication technologies in policing has moved at a pace from initial policy assumptions that not only do the public expect digital policing in an increasingly digitized world, but that to provide such choices will bolster police legitimacy (Wells et al.). Recognizing that there will always be a need for innovation in policing, the contributions to this collection demonstrate a significantly more complex and enmeshed set of factors that come to bear on judgements of police legitimacy (Bull et al.) in digitally mediated interactions. Moreover, contributions in this collection highlight the multiplicity of factors that are imposed upon policing, and leveraged by private technology organizations, through the introduction of these providers into police-public interactions. We demonstrate how police needs and culture may be imposed upon technology (Flinterud and Lundgaard, Terpstra) to provide a public-digital service (Wells et al.) but that these technologies do not necessarily, in turn, legitimate the police in the eyes of the public (Henning et al.). We also see that police decision-making regarding the implementation and use of new technology has not always (or indeed often) considered what it is that the public want and need from policing in this new era. So too it is clear that much research in this space focuses on the perspective of the police, not the policed. Articles within this collection draw our attention to the need to incorporate public experiences of police technology into our understanding of police legitimacy, and also go some way to illuminating the "black box" of public experience (see Henning et al.). We see not only the importance of police knowledge and skills (Waszkiewicz) and the perseverance of police culture in digital realms (Vrist Rønn), but also the potential for technology to simultaneously disrupt police culture and create new ways of being (Flinterud and Lundgaard).

This special issue on policing in a digitalized world focuses on how technology fundamentally reshapes police and policing. Contributions in this special issue sought to answer the following questions: (1) How does technology reshape the interactions between police (officers) and citizens? (2) What are the ethical and socio-political implications of these various technologies? (3) Which ethical questions arise when using various technologies? (4) What are the views and perceptions of police officers towards the adoption of technologies?

2 Contributions in This Special Issue

The special issue contains both theoretical and empirical contributions from England and Wales, the Netherlands, Norway, Poland, the USA and Belgium that demonstrate both the similarities brought by a global shift towards the digital, and the continued importance of local and cultural differences. Collectively, their significance is in allowing us to gain a better understanding of how technology fundamentally reshapes police and policing. A variety of research methods have been used including content analysis of documents, interviews, observations and surveys. The special issue includes the following contributions (see Table 1):

Title	Issue	Type of Study	Authors
<i>“Free text is essentially the enemy of what we’re trying to achieve”: the framing of a national vision for delivering digital police contact</i>	Explores how national-level strategic decision-making around digital policing has developed, and subsequently framed, contact experiences for a variety of end users	Qualitative Elite Interviews Frame analysis England and Wales	Helen Wells, Will Andrews, Estelle Clayton, Ben Bradford, Elizabeth Aston, Megan O’Neill
<i>Digitalization and Local Policing: Normative Order, Institutional Logics and Street-Level Bureaucrats’ Strategies</i>	Theoretical framework to understand how local operational police officers use digital instruments and tools	Qualitative Documents, interviews & observations Case studies The Netherlands	Jan Terpstra
<i>The Online Police Gaze: Police Discretion in the Digital Age</i>	Explores police discretion in digital patrols, adding “image decisions” as an overarching type of police discretion in the digital realm	Qualitative Interviews & observations Case study Norway	Kira Vrist Rønn
<i>“It’s complicated...” Social Media and Polish Law Enforcement Agencies’ Relationship</i>	Findings from a survey on how Polish police officers and prosecutors use social media in their daily practices	Qualitative Computer-assisted personal interviews Case study Poland	Pawel Waszkiewicz

<i>Online Crime Reporting: A New Threat to Police Legitimacy?</i>	Bivariate and multivariate analyses are used to identify factors associated with satisfaction, and qualitative data are used to document the specific problems victims encountered while using the online portal	Quantitative & qualitative analyses Survey USA	Kris R. Henning, Kimberly Kahn, Kathryn Wuschke, Christian Peterson & Stephen Yakots
<i>Machineries of Knowledge Construction: Exploring the Epistemic Agency of Digital Systems in Policing</i>	Exploration of two digital technological systems used by police control rooms, namely their internal system for call handling, control and command, and Twitter, the social media platform	Qualitative Interviewing digital objects Norway	Guro Flinterud & Jenny Maria Lundgaard
<i>Spatial Relations and Police Legitimacy in a Digitally Mediated World</i>	Contextually defined elements of spatiality (physical, social or virtual) should be considered in assessments of how perceptions of police legitimacy shape interactions between police officers and citizens	Qualitative Documents, interviews & observations Case study Belgium	Melissa Bull, Jasper De Paepe, Tyler Cawthray and Marleen Easton

Table 1: Overview of Contributions in this Special Issue

Opening this collection, **Helen Wells, Will Andrews, Estelle Clayton, Ben Bradford, Liz Aston** and **Megan O'Neill** explore data from the UK-based INTERACT project, focusing on interviews with strategic national leaders in England and Wales charged with driving forward an agenda of digitized police-public contact. The analysis uses Tracy's (1997) development of Goffman's concept of frames to consider the sometimes contradictory visions, approaches and values which operate in and generate the emerging contact architecture. The authors suggest that the primary frame in strategic decision-making has centred around the police need to manage demand and increase efficiency (a common theme throughout this collection). A second parallel frame, that of customer service, has also strongly impacted strategic decision-making, where it has been assumed by strategic national leaders that the public also wish for

the efficient delivery of this technologically mediated service. Early on in this collection, the authors propose the concept of “contact” as a deliverable in itself and, in doing so, meaningfully draw our attention to the tendency to artificially separate initial (digital) contact encounters for reporting purposes from the rest of the citizen’s journey through policing and (potentially) beyond. In doing so, they draw attention back onto the important issue of understanding what people want, and how they evaluate, contacts with the police.

In his contribution, **Jan Terpstra** presents a theoretical framework to understand how local operational police officers use digital instruments and tools. This framework consists of elements derived from both institutional theory and the street-level bureaucracy approach. Using qualitative data from the Netherlands, Terpstra advances theoretical understandings of the meaning and nature of “local” and “street-level” policing in a digitized world. The relevance of this theoretical framework is illustrated by empirical findings from several studies on digitalization of the Dutch local police, especially a study conducted in three local teams. Four different forms of digitalization of the Dutch local police are investigated: the processing of information, the use of social media, the use of real-time intelligence and of mobile applications and the new visibility of the police. This illuminates the challenging nature of incorporating traditional policing in digital spaces, demonstrating how technology appears to be dominated (and at times, resisted) by a selective police culture that is on high alert for the potential reputational risk that the misuse of digital technologies, particularly social media, could engender whilst remaining receptive to the organizational benefits, such as more information, it can confer. Three theoretical concepts prove to be especially relevant for understanding how operational police officers use and adapt digital instruments and tools: their normative order, their institutional logic and the strategies the police officers, as street-level bureaucrats, use to cope with the constraints related to digitalization.

In **Kira Vrist Rønn**’s contribution, she draws our attention to what police discretion looks like and behaves like in the digital realm – the so-called online police gaze. Vrist Rønn draws on empirical research on digital patrols in Norway that explored the “uniformed” police decisions made in online social media spaces. Applying Kleinig’s four distinct types of police discretion(s) to the digital realm, she demonstrates the augmentation and expansion of police discretionary decision-making within social media spaces and finds that there is a lower threshold for scope decision, that is: when it comes to deciding whether an issue is constitutive of a police incident, digital police patrol officers have a lower threshold for including incidents. Moreover, “old anomalies”, such as stereotyping behaviours found in foot-patrol, appear to be brought across into digital spaces, so that the police gaze remains directed at the “usual suspects” in both the physical and digital realm. The author draws our attention to the concerning potential of these two online discretionary processes in tandem: the lowering of the threshold for what becomes considered to be a policeable matter, as well as the continued focus on “usual suspects” may mean the net-widening of over-policing for certain “suspect” populations in the digital realm. Vrist Rønn goes on to consider hybrid police responses to digital patrol and the different constraints and opportunities afforded to police conducting digital patrols on digital spaces owned by private companies, and concludes with a discussion of common dichotomies from the policing literature, which might be collapsing when the police are operating online: distance versus proximity, dialogue versus

crime control and image work versus operational policing. Since digital policing is associated with a heightened degree of visibility of police – especially when engaging publicly on social media platforms – the article concludes by adding “image decisions” as an additional and overarching type of police discretion in the digital realm.

Diving further into the new frontier of police use of social media, **Pawel Waszkiewicz** explores how police and prosecutors in Poland have used social media for both personal and professional purposes. Social media is a nuanced and complex space in which law enforcement operates: a space in which online crimes may be facilitated and investigated, where analogue “real-world” crimes can be investigated and uncovered (such as a perpetrator’s careless use of Facebook), where crime prevention and law enforcement messages can be broadcast, and where the police and public can interact despite never meeting. Social media space is also a realm in which the personal and the professional can collide, and the focus of Waszkiewicz’s article is on the relationship between law enforcement officers’ personal use of social media and how this influences their professional use of it. His article presents findings from a survey on how Polish police officers and prosecutors use social media in their daily practices. The survey utilized the computer-assisted personal interviews technique to explore the reality of Polish law enforcement. Respondents, consisting of police officers and prosecutors ($n = 67 + 116$), answered questions about their official and private use of social media. The study aimed to test hypotheses related to age and the official and private use of social media. The results of the survey contradict some expectations. Police officers and prosecutors use social media more frequently than their civilian counterparts. They are often reactive to the actions of criminals, but some law enforcement officials use proactive strategies, and are equipped with notable knowledge and skills.

Not only are law enforcement agents now using online spaces more, they are also encouraging the use of digital reporting for members of the public. In recent years, many police departments have sought to increase efficiency by directing victims to report online, rather than communicating directly with an officer (Wells et al., 2023), but very little is known about how victims experience online reporting systems. Whilst procedural justice has become a cornerstone theory for understanding police-public interactions and experiences, much of this research has focused on in-person interactions initiated by the police. Extending contemporary understandings of procedural justice in policing into the digital world, **Kris Henning, Kimberley Kahn, Kathryn Wuschke, Christian Peterson** and **Stephen Yakots** explore how victims experience procedural justice in online reporting systems in the USA. Their study surveyed 1198 property crime victims who had reported the crime via an online portal in a large US police department. With such portals becoming commonplace in the delivery of policing and modernized contact strategies (see also Wells et al. in this collection). The primary objective was to evaluate the online reporting system using a procedural justice lens. One out of eight respondents said the agency’s online system was difficult to use, and just 16.7% were satisfied with the agency’s handling of their online report. Bivariate and multivariate analyses are used to identify factors associated with satisfaction, and qualitative data are used to document the specific problems victims encountered while using the online portal. Henning et al.’s contribution makes important academic and policy recommendations for understanding digitally mediated experiences of procedural justice. Henning et al.’s study

demonstrates that the asynchronous online system for crime reporting, where it can appear that reports are not followed up, can negatively affect people's perceptions of procedural justice, such as feeling listened to. The inattention to procedural justice in digital system designs, either by designing *out* or by not actively designing *in* opportunities to feel listened to, treated and responded to, can result in a loss of trust and confidence in policing institutions. Demonstrating the somewhat asymmetrical nature of public perceptions of the police identified by Skogan (2006), it would appear from Henning et al.'s work that new digital portals, when not designed in accordance with procedural justice, provide a ripe opportunity for the worsening of police legitimacy. Demonstrating that for the public, experiences of procedural justice go beyond the initial point and mode of contacting the police, Henning et al.'s work also shows that value judgements of police efficacy and legitimacy depend on how the initial contact is then responded to by the police, with survey respondents indicating a preference for both face to face and digitally mediated contact.

Guro Flinterud and **Jenny Maria Lundgaard** explore the epistemic agency of digital systems in policing. They explore two digital technological systems used by police control rooms in Norway, namely their internal system for call handling, control and command, and Twitter, the social media platform. Using the novel framework for interviewing digital objects from Adams' and Thompson's "Researching a Posthuman World", these scholars scrutinize how digital systems shape and define what becomes knowledge, uncovering and exploring how such systems have epistemic agency. The origins of the systems – one police-developed, the other not – have laid the basis for the systems' affordances and the epistemic cultures they work within. Whilst one works as a mostly friction-free system based on, and enhancing, internal police logics, the other is disruptive, laying a foundation for others to criticize and challenge the actions and logics of the police. The control room is understood to be an epistemic culture, and Flinterud and Lundgaard elucidate the systems as "Machineries of Knowledge Construction". Exploring these two distinct technological systems through Cetina's (2007) theoretical lens of epistemic cultures in combination with actor network theory, in which systems are afforded agency through their design, Flinterud and Lundgaard demonstrate how digital systems can shape police knowledge in both intended and unintended ways, and how police activity on privately owned digital domains such as Twitter signals a loss of control over police epistemologies, but may also enable public participation and critical discourse around policing, "highlighting that police logics might differ from public opinion" (p. 17).

Concluding this collection, **Melissa Bull**, **Jasper De Paepe**, **Tyler Cawthray** and **Marleen Easton** focus on the spatial relations of police legitimacy in urban settings embedded in a digitally mediated world. In today's world, the boundaries of social interaction have expanded beyond physical spaces to include virtual spaces and digital platforms. Understanding police legitimacy in the digital age involves not only examining real-world interactions but also deciphering contextual elements afforded by different technologies in relation to proximity and distance in a digitally mediated world. The authors argue that understanding police legitimacy can be contextually grounded by the routine consideration of dimensions of social (and geographical) distance or proximity. As Beetham (2013) maintains, the legitimacy of power needs to be understood in the context that it occurs, not in the abstract, even in the

virtual domain. The authors acknowledge that spatiality impacts every policing setting and they have explored how its various dimensions influence police legitimacy in contextually complex ways. Using the concepts derived from Georg Simmel's sociology of space (Skoric et al., 2003), they have offered a way to routinely consider not only physical and social aspects of policing but also the significance of digitally mediated dimensions of spatiality in investigations of police legitimacy. Their findings are based on a secondary analysis of ethnographic observational and interview data collected in neighbourhood policing settings in Belgium. They demonstrate how the proximity or distance between police officers in their interactions with both officers and citizens, whether constituted in neighbourhood settings or digital domains, can be linked to conceptualizations of police legitimacy. They argue that contextually defined elements of spatiality (physical, social or virtual) should be considered in assessments of how perceptions of police legitimacy shape interactions between police officers and citizens. For both academics and police, this article is a much-needed reminder that police legitimacy cannot be conceptually collapsed into procedural justice alone, highlighting that police legitimacy is a complex phenomenon that is brought into being not only by the dimensions of procedural justice, but also through the distribution of justice and the spaces in which police and citizens come to interact with each other.

3 Conclusion

This special issue makes an important contribution to our understanding of policing in a digitalized world. Collectively we cover a range of aspects of digital policing: police online crime reporting systems; call handling and control systems; digitalized information and intelligence systems; the use of social media for law enforcement purposes including investigation and digital patrols; and neighbourhood policing in a digitally mediated world. The collection is theoretically rich and presents new empirical data, utilizing a variety of methods. It provides original perspectives on the theme of digital policing by considering concepts such as procedural justice, frames, police culture, the epistemic agency of digital systems and elements of spatiality. By doing so, it begins to fill a global research gap and highlights important considerations including efficiency, risk, police discretion, ownership of systems, power and legitimacy in relation to policing in a digitalized world.

However, substantial research gaps remain on the topic of digital policing internationally, particularly around public expectations and experiences. Nonetheless, this collection provides a timely exploration of how various aspects of digital policing are developing in a number of jurisdictions. Various important implications for policy and practice are drawn out across the collection. For example, these point to the importance of police culture, knowledge and skills, caution regarding stereotyping and potential net-widening, the need for police to understand what the public want and provide follow-ups following digital contact, a consideration of the agency of systems and their ownership, and the importance of spatiality and proximity to legitimacy. As well as being of significance to police organizations and the public globally, the collection (even if it only touches the tip of the iceberg) provides a valuable contribution to the theoretical and empirical knowledge base of digital policing internationally.

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