

The Deterrence Spectrum: Explaining Why Police Body-Worn Cameras ‘Work’ or ‘Backfire’ in Aggressive Police–Public Encounters

Barak Ariel*, Alex Sutherland*, Darren Henstock*, Josh Young* and Gabriela Sosinski*

Abstract Police body-worn cameras (BWCs) are an increasingly prominent research area in criminal justice. This trend mirrors current practice, with more and more law enforcement agencies implementing or procuring BWCs. Yet the evidence on BWCs is substantially long on evidence but rather short on theory. Why should BWCs ‘work’ and under what conditions or on whom? This article offers a more robust theoretical composition for the causal mechanisms that can explain the efficacy of BWCs. What sets them apart from other surveillance devices, such as closed-circuit televisions (CCTVs), speed cameras, or bystanders’ mobile cameras? We introduce the deterrence spectrum, within which BWCs can de-escalate or exacerbate aggressive encounters. We argue that the deterrent effect of BWCs is a function of discretion, whereby strong discretion is inversely linked to a weak deterrent effect that consequently leads to more use of force, and weak discretion is inversely linked to a strong deterrent effect and less forceful police responses. We show that the deterrence effect of BWCs ranges from ‘minimal deterrence’ to ‘maximum deterrence’ depending on the officer’s discretion. At one extreme, ‘over-deterrence’ and even ‘inertia’ are possible, which are manifested in police withdrawal. Given the mechanisms that are in play, more attention ought to be given to officers’ discretion, training on appropriate use of BWCs, and technological fixes. We conclude by linking these findings to BWCs discretion policy, as well the willingness of the agency to adopt an evidence-based policing framework.

Police body-worn cameras (BWCs) are everywhere. These small devices, enthusiastically endorsed by the police, politicians, civil rights advocates, and the public, have generated a growing

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multimillion-dollar industry,¹ yet we know little about them (White, 2014). Although evidence is beginning to build (Lum *et al.*, 2015; Cubitt *et al.*, 2016), both the intended and unintended consequences of using this emergent technology in policing remain broadly unclear. Evaluations of the use of BWCs simply cannot keep pace with the speed at which they are being deployed by police departments. Despite the imminent risks associated with non-evidence-based policymaking (Sherman, 2013), it is no surprise that policymakers are grabbing onto this technology: in an environment where legitimacy and trust are low in many police departments worldwide, BWCs have been heralded as the panacea to all that ails policing.

To be sure, BWCs are relatively simple devices. Some devices perform poorly, while others are far superior in their ability to assist law enforcement agencies (Sykes, 2014), but ultimately, they all are ‘just’ cameras. This poses a basic question: why do they ‘work’, in the sense of having a civilizing effect on police–community interactions? Why do BWCs cause a reduction of more than 90% in complaints filed against the police (Ariel *et al.*, 2016c)? Why does the use of BWCs, in some places, causes a reduction of more than one-half in the force applied by officers in encounters with members of the public (Ariel *et al.*, 2015; Jennings *et al.*, 2015) but fails to do so in other sites (Ariel *et al.*, 2016b)? Under what circumstances could BWCs become ‘game-changers’ in American policing (Sherman and Strang, 2015)? When contemplating the answers to these questions, we need to pay attention to how cameras are used, bearing in mind that ‘used’ denotes not only the actual activation and recording of evidence but also, most importantly, whether and how the footage is then used by the law enforcement establishment (Drover and Ariel, 2015).

Causal mechanisms have already been suggested (Ariel *et al.*, 2015) that relate to both officer and suspect behaviour, but a more robust theoretical

exposition seems to be missing from the debate on the efficacy of BWCs. In what follows, we set out to explain not only why BWCs trigger a desired effect on police behaviour, suspects’ behaviour, or both, but also what sets official BWCs apart from other video-recording innovations, such as closed-circuit television (CCTV), dashcams, and everyday smartphone cameras. We argue that deterrence theory can potentially ‘settle the score’ and address these findings, under what we refer to as the deterrence spectrum. In broad terms, we will claim that the deterrence effect of BWCs causes officers to comply with the rules of engagement. The effect moves within a spectrum, from minimal deterrence, through optimal deterrence and maximum deterrence, and up to inertia. As the degree of deterrence increases, officers are less likely to use force. We argue that, while our model explains the use of force within the context of BWCs, it can be generalizable to other surveillance apparatuses as well.

The article is structured in the following way: first, we review the available evidence on surveillance devices, namely CCTV, mobile phones/by-stander cameras, and speed cameras. We look at these recording devices mainly to show why BWCs are in fact unique and particularly to lay out the background for our theoretical model. We then present the evidence on BWCs, which is continuously growing [editor—enter here details of this special volume on BWCs], with particular attention to the Cambridge Replication Experiments, their main effects, and subgroup analyses that focused on police discretion.

Based on this evidence, we then introduce the ‘deterrence spectrum’ as a possible model for explaining when BWCs work or can backfire, in terms of use of force. We review what minimal, maximum, and optimum deterrence mean under these conditions and contextualize the effects of BWCs within social psychology, risk preferences, and practice. We also look at inertia, which refers

¹ <http://www.nij.gov/topics/law-enforcement/technology/pages/body-worn-cameras.aspx>.

to the de-policing that BWCs can potentially create in extreme circumstances. When discussing the model, we relate it to activation policies, arguing that—given the principles of deterrence theory—discretion in operating BWCs will create a slippery slope, which can lead to BWCs' ineffectiveness. Finally, we argue that BWCs and technological fixes can be mitigated by a broader organizational commitment to evidence-based policing.

The efficacy of technological surveillance: CCTVs, mobile cameras and speed cameras

Surveillance cameras have, in fact, been in existence since before the 1960s (Williams, 2003). In the last 25 years or so, however, these devices have become an integral part of law enforcement (Loftus *et al.*, 2016). Technological advancements have made these cameras better, more reliable, and substantially cheaper (McCahill and Norris, 2004; Menichelli, 2014; McCahill, 2015). Surveillance apparatus are aimed at sending 'deterrence signals', as another layer of social control against misconduct, crime, and norm violations. Yet their efficiencies vary. Below, we discuss the most prominent devices. The review is not meant to be comprehensive, but rather serve as a comparative method of illustrating why BWCs have the potential to modify behaviour.

CCTV

Most if not all Western police agencies use CCTV as part and parcel of crime deterrence, investigation, and prosecution, as well as to enhance the satisfaction of the public with the police (Doyle *et al.*, 2013). The Old City of Jerusalem, for instance, is under such heavy surveillance that it is said that only a handful of streets are not covered by

CCTV—and these 'blind spots' are often covered by privately installed CCTV. At least in metropolitan cities, it should come as no surprise that nearly every movement in the public domain is videotaped, recorded, tagged, and filed.

How successful are CCTVs in preventing crime? The inhibition of crime, especially violence, has been one of the major impetuses behind CCTV (e.g. Sivarajasingam *et al.*, 2003).² It is the prominent reason for our willingness to relinquish our right to privacy in the public domain (Taylor, 2002). For CCTV to achieve its goals, offenders must be assumed to be rational calculators (Cornish and Clarke, 2014) who consciously weigh the benefits versus the costs of their actions. Potential offenders must therefore be cognizant of the presence of CCTV in their environment, which would trigger a 'deterrence cue' (Ariel *et al.*, 2015). Furthermore—and perhaps more importantly—potential offenders must assume that being caught on CCTV tape will result in apprehension by a police officer (Webster, 2009; Armitage, 2003). This means that the purported effects of CCTV are a function of awareness and the probability of apprehension.

However, despite investing billions of dollars in CCTV (Martínez-Carballido *et al.*, 2010, p. 164), the overwhelming evidence does not support their deterrent effect—at least not in terms of the prevention of violence. Meta-analyses of the evidence (Welsh and Farrington, 2002, 2003, 2009) show that installing CCTV in the public domain causes but a modest decrease in crime compared with similar places without CCTV. No fewer than 44 studies, of varying methodological rigor and at different locations, illustrate that the overall crime reduction effect of CCTV is about 16%; however, half of that reduction is concentrated in the prevention of vehicle theft in car parks, with nil effect on violent crimes such as assaults, robberies, and similar

² Home Office (2010). 'The use of CCTV for the safety of users of your business is important. Often this requires some form of live time monitoring of the cameras to enable an early intervention by an appropriate person in an incident such as an assault or a violent shoplifter'; see Home Office CAST publication 37/10 ISBN 978-1-84987-256-0, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/142684/cctv-small-business-guidance.pdf.

against-person crimes. The evidence also tends to show that criminal behaviour is displaced to other areas (Ratcliffe *et al.*, 2009; van Bommel *et al.*, 2014). Likewise, any prolific offender already knows precisely where the blind spots of CCTV cameras are located (Piza *et al.*, 2014) and that CCTV does not work well in the dark and when the offender wears a ‘hoodie’, creating a shaded and unidentified blur instead of a recognizable face (Arnold and Levin, 2010). It may also be the case that CCTV has become such an integral part of everyday life that its presence escapes our conscious attention (Beck and Willis, 1999). Finally, it is often difficult to single out the effect of these costly systems from the impact of the additional signage and/or lighting that is usually installed with the cameras and could (Farrington and Welsh, 2002), in fact, be the primary ingredient that deters offenders (Painter and Tilley, 1999). In short, CCTV may cause the public to feel safer (Farrell *et al.*, 2010), but it does not make them safer from victimization: by and large, CCTV does not deter offenders and, importantly, does not prevent violence. This lack of effect on violence is hardly surprising if one considers that violence is primarily reactive—i.e. unplanned—meaning that situational cues may be lost in the fog of anger in the face of provocation. Even if violence is planned, the ‘heat of the moment’ may again mean that the deliberative weighing of the situation is lost.

Mobile phones/bystander cameras

With the proliferation of smartphone devices, it seems that today, virtually everyone can be a camera operator. Mobile phone cameras are ubiquitous, and the videotaping of police–public engagements by members of the public is incredibly popular—especially when misconduct is caught on tape. One can just turn to the infamous Rodney King story in Los Angeles (1992), the shooting of Walter Scott by Officer Michael Thomas Slager in South Carolina (2015), or the ‘I can’t breathe’ incident involving the late Eric Garner in New York (2015) as vivid reminders of the potential effect of

cameras on police–public relations. The Los Angeles riots of 1992 and the ‘Black Lives Matter’ movements of 2015 are potent examples thereof.

A camera at the scene of a police–public encounter ought, logically, to send out an ‘accountability cue’, which is generally an aspect of social context that eliminates feelings of anonymity. These cues trigger people to become aware that their actions can be ascribed to them at an individual level (van Bommel, van Prooijen *et al.*, 2012, p. 927). The presence of a camera is an established and well-validated manipulation of ‘self-awareness’, used in many different experimental settings (e.g. Duval and Wicklund, 1972; Yao and Flanagin, 2006). The awareness of the presence of a camera prompts certain morally accepted behaviours and can, for example, increase intervention when people are otherwise least likely to help (i.e. when other bystanders are present—see van Bommel *et al.*, 2014). As summarized by Klick *et al.* (2012, p. 1):

... given that mobile phones increase surveillance and the risks of apprehension when committing crimes against strangers, an expansion of this technology would increase the costs of crime as perceived by forward-looking criminals ... the intuition about mobile phones providing crime deterrence fits in well with modern discussions in the crime literature regarding optimal policy and the expanding use of private security precautions in crime prevention.

However, to the best of our knowledge, there is no published work on the deterrent effect of mobile phone cameras on police misconduct. Nor is there any evidence that would suggest that citizens encountered by police officers would become more (or less) compliant when facing a camera held by a bystander (cf. Bonilla and Rosa, 2015, who provide an ethnographic account of these potentials). The Eric Garner incident is particularly insightful in this regard: as clearly shown in the recording of the

event, police officers seem explicitly aware of the cameras filming them (at least some of them looked directly at the camera operator; *The Guardian*, 2015), yet they still used a questionable tactic to subdue Mr Garner in a chokehold. Why? Would officers not modify their behaviour given the fact that they were being observed?

Speed cameras

Before answering this question—although directly related to this conundrum—it is worth first noting one particular type of camera that does seem to be effective in preventing noncompliant behaviour: road or speed cameras. A systematic review of 35 tests of road cameras (*Wilson et al.*, 2010) has shown that these devices cause a 44% reduction in serious and fatal accidents compared with control conditions. The evidence is generally promising as a method of modifying drivers' behaviour. Speed cameras are causally linked to a reduction of 15% in average speed, a reduction of 65% in the number of vehicles that drive over the limit, and a reduction of nearly 50% of all car crash types. As the Royal Society for the Prevention of Accidents (2015)³ suggest, 'the magnitude and consistency of the results across different countries and types of road provides a high level of confidence that the introduction of speed cameras does reduce accidents at the sites where they are located'.

It also seems to be the case that even a speed camera sign alone is linked to major reductions in speed. According to *Corbett and Simon* (1999, p. 73), speed camera warning signs represent a real threat of apprehension. The results of their UK survey showed that the most common explanations of slowing down amongst drivers were 'There may be a bigger risk of being caught than I thought'; 'There may be more cameras than I thought'; and

'I've seen more camera signs near this road' (p. 77). It is not, therefore, the actual risk probability of getting caught that informs behavioural changes but the perceived risk perception (*Paternoster et al.*, 1983; *Grasmick et al.*, 1993).

Police BWCs—the evidence

BWCs are small audio-video recorders that are 'mounted' on the officer. The shapes and types vary, (see review in *Sykes*, 2014), but in general, all models aim to achieve two overarching goals. On the one hand, by recording police–public interactions from the officer's perspective, they are believed to prevent escalations or new crimes from occurring. On the other, they assist in bringing offenders to justice. Once the cameras are visible to suspects and as officers are aware of the devices being switched on and recording their actions, a signal is sent to those present in the encounter: 'Look out! You're on camera' (*Ariel*, 2016a).

BWCs are different from CCTV by at least one prominent feature: their deterrent message is understood to create a substantially higher level of self-awareness, since the apparatus is far more noticeable than a distant CCTV (see review in *Ariel et al.*, 2015, p. 516). In theory, since the risk of apprehension for misconduct or for hostile or generally criminal behaviour is elevated to near-certainty—which is not something that can be said about CCTV—both parties are 'cooled off'. The belligerent suspect becomes is hypothesized to become less resistant, and the otherwise thin-skinned officer responds with what most of us would deem a more accountable, professional approach, demonstrating fairness, dignity, and respect, and proportional force only when necessary.⁴

³ <http://www.rospa.com/road-safety/advice/drivers/speed/cameras/>.

⁴ In passing, we note that, while 'violence, even verbal aggression, is relatively rare in police work' (*Bayley and Garofalo*, 1989, p. 1), it remains one of the most contentious and concerning police actions. Despite the fact that we live in an era in which police are likely to be more accountable than ever in policing history, with police actions being more transparent than ever, forceful encounters can easily erode any attempt to bridge over the past; as Professor David Kennedy recently commented, 'trust can't be established without being honest about what's happened between police and the community in the past, which is a hard thing for folks with power and privilege to acknowledge' (*The Washington Post*, 16 June 2016).

How research supports these contentions is empirical. BWCs research is continuously growing. A recent literature search of the available evidence conducted by Lum *et al.* (2015) has shown that there were—at the time the report came out—12 existing empirical studies of BWCs and about 30 ongoing research projects (see also reviews by White, 2014 and Cubitt *et al.*, 2016). While there were attempts to implement BWCs in policing nearly a decade ago (Goodall, 2007; Harris, 2010), evidence on their effectiveness has only surfaced in the last few years, and undoubtedly many will follow. Four of the published studies thus far in the Lum *et al.* (2015) report employed randomized controlled trials (Ariel *et al.*, 2014; Grossmith *et al.*, 2015; Jennings *et al.*, 2015; Owens and McKenna, 2014), and others have used less robust designs (e.g. Ariel, 2016a,b). To summarize what was known from these studies, Lum *et al.* (2015, p. 11) provided the following synopsis:

We refrain at this point from drawing any definitive conclusions about BWCs from the twelve existing studies because there are so few of them. Individually, nonetheless, these studies are beginning to hint at a few possible hypotheses. For example, it appears that officers may not necessarily have negative attitudes toward BWCs generally (see, e.g., Jennings *et al.*, 2015; Owens *et al.*, 2014; Ellis *et al.*, 2015). However, some of the studies examining activation of the cameras find varying levels and nuances of compliance and activation of cameras (see Roy, 2014; Katz *et al.*, 2015). BWCs may reduce complaints against the police (see Ariel *et al.*, 2015; Goodall, 2007; Katz *et al.*, (2015)) or result in quicker resolution of complaints (see Katz *et al.*, 2015; ODS Consulting, 2011). However, whether or not that signals increased accountability, improved

citizen satisfaction, or improved police or citizen behaviour is still uncertain. . . . Ariel *et al.* (2015) find that BWCs reduce use of force incidents, but Katz *et al.* (2015) find that arrest activity increases for officers wearing BWCs (Owens *et al.*, 2014, also seem to find similar impacts on individuals being charged). Interestingly, Ready and Young (2015) seem to find that officers wearing cameras, while less likely to perform stop and frisks or make arrests, are more likely to give citations.

The Cambridge University experiments on BWCs

The Rialto Experiment. In many ways, one study that gave rise to the heated public as well as scholastic debate is what is now commonly referred to as the ‘Rialto Experiment’, conducted in 2012 (Ariel and Farrar, 2012). In 2014, Ariel *et al.* first reported the findings of this study in the *Journal of Quantitative Criminology*. The research, conducted in the jurisdiction of Rialto, California, with just over 50 frontline officers, compared nearly 500 police shifts in which all police–public encounters were assigned to treatment conditions and an equal number of police shifts to control conditions. During treatment shifts, officers were asked to videotape all their encounters with members of the public, to announce to the parties with whom they engaged that the encounter was being videotaped, and to subsequently store evidence on a secured cloud. In control shifts, the officers were tasked never to use the devices. Outcomes were then measured in terms of officially recorded use-of-force incidents and complaints lodged against Rialto police officers. Following this twelve-month experiment, Ariel *et al.*, 2015 reported a relative reduction of roughly 50% in the total number of incidents of use of force compared with control conditions and a 90% reduction in

citizens' complaints compared with the 12 months prior to the experiment.

Replication studies: design. Since the Rialto Experiment, a multisite experiment was conducted by researchers and students at the Jerry Lee Centre of Experimental Criminology and the Police Executive Programme at Cambridge University (Ariel *et al.*, 2016a). This large-scale and global study provided data from 10 tests from eight police forces in six jurisdictions, covering a total population of more than 2,000,000 citizens. Jointly, the trials involved 2,122 officers in eight police departments, with 2,188,712 officer-hours. As in the Rialto Experiment (Ariel *et al.*, 2015), each study was a two-armed trial that randomly assigned officer shifts to either experimental (with cameras) or control (no cameras) conditions on a weekly basis. This resulted in 4,915 shifts being assigned. A pre-published protocol, similar to the Ariel and Farrar (2012) protocol, stated that all officers doing 'camera on' shifts had to wear a camera, keep the camera on during their entire shift (typically between 8 and 12 h), and inform members of the public during any encounter that they were wearing a camera that was recording their interaction. This means that the intervention consisted of (camera + notification). This protocol was strict: it stripped officers of their customary field discretion. However, this design was also necessary because there were no sufficiently strong assumption at the time that BWCs 'work'. Deviations from the experimental protocol implicitly lead to complications; if the trials do result in a reduction in the use of force, complaints, etc., then deviating from the protocol makes explaining the findings more challenging. For instance, if officers turn on the cameras when they feel it is the right moment during a police-public interaction (instead of all the time or at

the first moment of the encounter), then when is this right time? What is it about the officers' behaviour that led to a reduction in the use of force, despite the deviation from the protocol? Under which circumstances should BWCs not be used? Without controlled settings, these questions cannot be answered in full. More fundamentally, our state of the art of knowledge about BWCs was not developed fully enough to address these complicated queries.

Replication studies: findings. The multisite experiment produced findings on several outcomes, but we focus here on police use of force. First, as reported in Ariel *et al.* (2016a), the trials across the sites showed no overall discernible effect of using BWCs on police use of force. The combined estimates from the fixed effects meta-analytic specification for police use of force per 1,000 arrests⁵ resulted in no significant differences between the treatment and control arms ($d = 0.021$; standard error (SE) = 0.056; 95% confidence interval (CI): (-0.089, 0.130)).

Sub-group analyses within the Cambridge replication studies. At the same time, some of the outcomes were heterogeneous, meaning that there were significant differences between the various study sites when looking at the use of force.⁶ While in some sites these outcomes increased because of the treatment effect, in others, they were reduced, and in some, they remained the same as in the control conditions (nil effect). Although some variability should be expected between study sites, as policing styles, cultures, and challenges vary across police forces, it can also present conceptual difficulties when trying to unearth the causal mechanism(s) behind the intervention. Not addressing the question of why BWCs 'work' in some places

⁵ In this sense, the replications deviated from the Rialto Experiment: in Rialto, Ariel *et al.* (2015) measured the use of force per 1,000 contacts, whereas the replication studies observed the effect per 1,000 arrests. These differences were due to the ways in which data are recorded differently in different police forces.

⁶ No significant inter-site heterogeneity was detected for complaints ($Q = 4.905$; $P = 0.428$).

means that we do not understand fully the reason for the behavioural changes were found in previous studies. Therefore, the next natural step in experiments, after producing the main effects, is to explain the results using a theoretically driven set of sub-group analyses (see review in Ariel and Farrington, 2010). The heterogeneity can be explained in the context of officers' discretion.

The study's pre-established experimental protocols (see [supplementary materials](#) in Ariel *et al.*, 2016b; see also Ariel and Farrar, 2012) dictated the following guidelines to officers: during treatment conditions, (1) every response police officer on the shift was part of the trial and (2) had to wear a BWC; (3) keep the camera turned on throughout every interaction; and (4) give a verbal warning to the citizens/suspects that they were wearing a camera/recording what was going on. The control conditions required that cameras were not worn at all. Yet despite good intentions, many forces did not comply fully with these protocol guidelines. Some forces were simply unwilling to follow the experimental protocol, while some forces complied only partially. These 'treatment integrity' issues have made our study imperfect; however, this implementation challenge helped us better understand under which conditions BWCs 'work' and when they can directly backfire (for broader implications of integrity issues, see Slothower *et al.*, 2015). Ariel *et al.* (2016b; see also Young and Ready, 2015) found that use of force depends on how well officers complied with protocol and the extent to which they apply discretion on when, how, and where to use BWCs.

Using this grouping criterion, it was shown that, in cases where officers did not comply with the protocol (i.e. applied 'strong discretion' on when to turn the cameras on and off during shifts), the use of force increased dramatically—more than 70%. In contrast, in cases where officers did comply with the protocol, meaning that they kept the cameras on throughout their interactions, the use of force decreased by nearly 40%. In between

these two scenarios, it was shown that departments that experienced nil effects (+2% nonsignificant increase in the use of force), as officers did not comply at all with the experimental protocol. In methodological languages, these scenarios show the importance of treatment fidelity in experimental research (Borrelli, 2011; Neyroud, 2015).

Contextualizing the results: introducing the deterrence spectrum

The findings lend themselves to a model that is theoretically driven and informed by evidence: a spectrum of deterrence, ranging from 'minimal deterrence', through 'maximum deterrence', and ultimately 'inertia'. We believe that these concepts within deterrence theory can explain how BWCs reduce or increase the likelihood of use of force by the police. The model explains how BWCs might backfire (i.e. result in more use of force) but also identifies an optimal point where the BWCs' deterrence dosage is 'just right'. This optimal deterrence point is where police officers ought to exert appropriate and proportional force during police–public interactions. We will show below that the model is generalizable, particularly in the context of surveillance devices: the deterrence spectrum explains why certain cameras can 'work' (e.g. BWCs and speed cameras) and why others have generally failed (e.g. CCTV). Finally, the model addresses the needed technological fixes for these boomeranging results. First, however, a brief summary of deterrence is required.

Deterrence theory

Overall, the 'success' of any BWCs policy in reducing both misconduct and criminal behaviour can be attributed to deterrence theory (Ariel *et al.*, 2015). The theory has been around for centuries, and its efficacy has been argued to be borne out of three elements: likelihood of apprehension, severity of punishment, and celerity of punishment (see

review in von Hirsch *et al.*, 1999; Loughran *et al.* 2012). However, the prominent factor that makes deterrence instrumental in behavioural modification is attributed to the perceived likelihood of apprehension, rather than the other two factors (Nagin, 2013b; Ariel *et al.* 2016). In this context, effective deterrence is often thought of as a threat mechanism, comprising five intertwined elements: A potential rule violator must: (1) realize that the probability of apprehension or conviction or the severity of punishment has changed;⁷ (2) take these altered risks into account when deciding whether to break the rule; (3) believe that there is a non-negligible likelihood of being caught; (4) believe that any altered penalty will be applied to him/her if caught; and (5) be willing to alter choices in the light of (1) (Von Hirsch *et al.*, 1999; Pratt *et al.*, 2006; Paternoster, 2010; Pratt and Turanovic, 2016). When people carry the belief that the odds of getting caught behaving in a non-compliant way are ‘sufficiently high’—and the operative ingredient is the actor’s perception—then the non-compliant behaviour is expressly less likely to be preferred (see the review on these ‘sanction threats’ in Ariel *et al.*, 2016, as well as in Ariel and Partridge, 2016). Indeed, there may be instances when people will purposely behave in a delinquent way even though there is sufficient reason to assume that the likelihood of apprehension is high. However, these are generally the exception rather than the norm.

In our context, the camera increases the likelihood of apprehension for misconduct or criminal transgression that BWCs can detect. The likelihood of getting caught for abusing powers, for instance, is substantially elevated when the camera is recording the police–public interaction; the footage can produce close-to-unequivocal evidence, and the presence of such an observer can deter from misconduct. Under no-BWCs conditions, on the other hand, such misconduct behaviour could be left for ‘interpretations’ about what has really transpired.

Thus, the increased likelihood of apprehension for norm violation as a result of using a BWC, along with the enhanced ability to bring transgressors to justice when illegal activities do take place, ascribe BWCs the ability to threaten and to materialize this threat of apprehension. The threat of apprehension is therefore causally linked to fewer violations of the law and rules of conduct—and the evidence we reviewed herein on BWCs seems to broadly support this contention. Most published studies on BWCs (Owens and McKenna, 2014; Ariel *et al.*, 2015; Jennings *et al.*, 2015; Young and Ready, 2015) agree with or allude to the primary mechanism that can underpin the deterrent effect of BWCs (however, cf. Demir, 2016).

The deterrence spectrum

Our aim here is to extend this further. We argue that the effect of BWCs in public–police encounters floats within a range: the ‘deterrence spectrum’. The deterrence spectrum encapsulates the entire range of deterrence effects that an intervention—in this case, BWCs—can have on police use of force. We address these concepts more fully below, and they are also illustrated in Fig. 1.

Minimal deterrence. In policing, the effectiveness of the ‘sanction threat’ under the deterrence model is primarily a function of officers’ discretion (or lack thereof). On one end of the spectrum, we find ‘minimal deterrence’. Minimal deterrence is inversely related to strong discretion. When officers are given broad or strong discretion powers, the deterrence effect is low and bears no substantial impact, as the officer is allowed to override the rule. Under these circumstances, the likelihood of apprehension for misconduct is low. The deterring rule is limited when the officer can apply judgment about the applicability of the rule to the given circumstances of the police–public interaction. Therefore, the rule is deemed ‘toothless’ (Ariel, 2012) because it is ineffective in discouraging

⁷ It remains a question whether there will be a fade-out effect as officers potentially become desensitised to being observed.

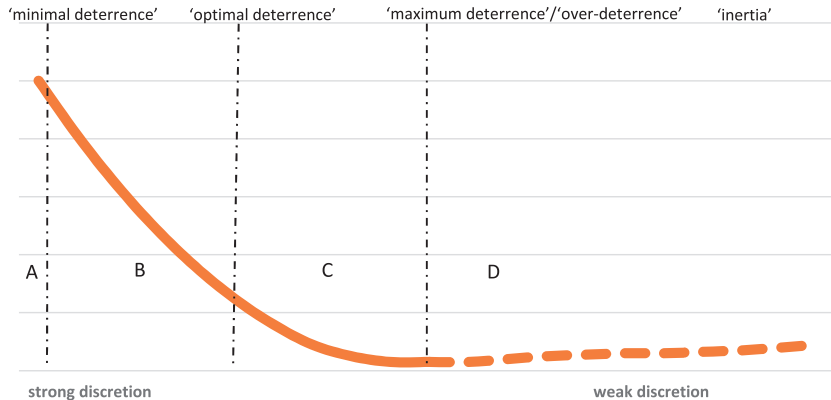


Figure 1: The deterrence spectrum: the effect of BWCs in public–police encounters as a function of officer’s discretion.

non-compliant behaviour (e.g. excessive use of force). In terms of BWCs, these can be departments that give their officers the power to decide when and how to use the devices. Officers have discretion on when to videotape incidents, when to announce the recording of these events, and at which stage of the interaction to press the record button. Alternatively, these are departments that provide their officers the discretion to decide when to turn off the BWCs.

Minimal deterrence is shown in Fig. 1 below, and we identify two types of policies (Area A and Area B in Fig. 1). First (Area A), there are departments that have procured the devices and adopted broad user guidelines but have given the officers 100% discretion on when to wear the devices and under which circumstances to record incidents and have not embraced a policy for dealing with officers who do not record their interactions. In our report on the use of force (Ariel et al., 2016b), these are departments that experienced no differences between treatment and control conditions, which was the reason Ariel et al. (2016b) found a non-significant 2% change. In terms of practice, these are departments where officers are able to make a clinical judgment about the necessity, proportionality, and appropriateness of applying force when engaging with suspects, as well as about the applicability of using BWCs in police–public contacts.

Indeed, police discretion is a pillar of modern policing in many jurisdictions around the globe. However, we think there is great peril in broad discretionary powers, when it comes to BWCs. When cops can override BWCs guideline and turn off the cameras when they deem fit, the cameras will not work. The risk of apprehension for misconduct will be weak, and there will be no overall difference between interactions where BWCs are used and not used. The sanction risk is minimal because officers can simply choose not to turn on the devices or record what they deem appropriate. They may also have the power to store as non-evidentiary incidents in which misconduct was caught on tape. Thus, the perceived threat of apprehension for misconduct is minimal.

(It should also become immediately clear why the scenario portrayed in Area A in Fig. 1 applies to CCTVs as well: If the sanction threat is low because either the offenders know how to conceal their faces (by wearing a ‘hoodie’) or because they can commit the crime elsewhere, then CCTV would not alter the decision-making process of offenders or victims. The capacity to avoid apprehension therefore makes the deterrence effect of CCTV unlikely to materialize.)

Under these conditions of strong discretion we also identify circumstances when activation of BWCs may turn against them: having to apply

more force than in interactions without BWCs. In Area B in Fig. 1, we denote situations where the deterrent effect of the cameras is minimal but instead of causing nil effects (as if officers did not wear BWCs) but produces counter-effective results: more use of force as a result of using BWCs compared with the control conditions. Ariel *et al.* (2016b) explained these results on practical grounds: BWCs can backfire in terms of use of force when officers turn on the devices when the encounter is already heated (e.g. ‘Calm down or I will start recording you’) rather than record every interaction from its beginning and verbally warn citizens about the recording. In the Cambridge University Replication Experiments, evidence suggests that turning on the camera during rather than before interactions commence can inflame an already intense interaction, thus leading to more use of force rather than less (e.g. ‘Turn off that camera’, ‘Don’t you turn this camera on me now!’; Sykes *et al.*, 2015).

(The conditions in Area B also reflects circumstances when bystanders begin recording a heated interaction between police officers and civilians, then the camera will not have a civilizing effect—but perhaps the contrary: the videotaping of the encounter can ‘lock’ in or provoke the parties into an aggressive altercation when they realize suddenly that the camera is ‘on’ them. For this reason, we believe that videos recorded through mobile phones will not have a civilizing effect on police-public interactions.)

Maximum deterrence. On the other end of the spectrum, we find ‘maximum deterrence’. Maximum deterrence is linked to weak discretion because the officer is not in a position to override the rule. The officer is more likely to apply the necessary guidelines of engagement, and his/her capacity to apply judgment about the appropriateness of the rule is limited. In BWC terms, these are police departments that make the use of the devices mandatory, including a prescribed application of the operating procedures for BWCs, without the

power to decide when to turn on the device. This means that the likelihood of apprehension, on tape, for misconduct is strong, as the device records the entire interaction. Similarly, these BWCs guidelines would state that the officer is expected to have the camera on during every encounter, from start to finish, and violations of this operating procedure can result in a reprimand.

As shown in Area C in Fig. 1, we find forces that fully implemented the protocol: officers used BWCs with every encounter (i.e. they kept the devices on in every engagement with the public), informed the suspect that the encounter was being videotaped (orally or visually), and did not use the devices during control conditions. In practice, these are police departments in which officers are fully cognizant that their interactions with the public are documented and that there is a strong likelihood of apprehension for rule violations. Sanction threats are at their peak—and these are the conditions for speed cameras. We refer to these circumstances as ‘maximum deterrence’ because BWCs have such a strong effect on police behaviour that it directly drives them to apply less force, without reducing their willingness to engage (Ariel *et al.*, 2015). This implies that officers applied weak discretion about using cameras: they followed the protocol continuously and consistently.

We also submit that these outcomes represent the extreme side of the efficiency spectrum: potentially the most that can be achieved from this intervention in terms of use of force. To be sure, some force is required in policing, and we should not expect or wish for no force of any kind to be used. After all, some suspects or circumstances will undoubtedly attract forceful, possibly lethal police reactions.

Over-deterrence. We recognize that there may be a perverse effect of BWCs, through what we refer to as ‘over-deterrence’. These are cases where officers not only apply BWC rules in a prescribed way but also apply other rules of engagement in a

regimented approach, fearing reprisal by their superiors. As intense interactions can often be left to subjective interpretations, some officers might fear that their actions will be viewed as lenient or ill-advised. This, for instance, can be translated into a bureaucratic and ‘cold’ application of rules. As an illustration of this type of policy, Farmer (2016, p. 1) recently reported, based on in-depth interviews with police officers, that, ‘to avoid being scrutinized for their decisions in police–public interactions, they will simply ticket or arrest everyone as required by law, instead of providing leeway and understanding on an individual basis’.

Inertia. Finally, we hypothesize that over-deterrence as a result of having BWCs can reach inertia levels, which we can contextualize within the risk aversion literature (Dow and da Costa Werlang, 1992): Officers with BWCs become reluctant not only to apply force but also to engage with members of the public. Officers would not do more than is minimally required from them. Under these conditions (Area D in Fig. 1), the treatment effect of BWCs is dangerously high; it pushes officers into routinized and reserved policing. This suggests that officers have become driven to follow codes of practice bureaucratically, fearing reprisal for misconduct. These are cases when officers are deterred ‘too much’ and do not respond well to having BWCs.

For example, these officers might fear that using aggressive (but necessary) verbal commands will be interpreted as misconduct and, failing to apply these responses, are potentially more likely to become avoidant. As the literature confirms, policing often requires using force to subdue an aggressive criminal, and under these circumstances, officers must apply force not only to get the job done but also to protect themselves. However, having a constant observer of which the officer is cognizant during such

an interaction and that the officer can perceive as ‘just another way of getting me’ (Ariel, 2016a; Tankebe and Ariel, 2016) can lead under extreme circumstances to what Rosenfeld (2015) referred to as ‘police withdrawal’. Instead of acting with necessary force, officers become reluctant to engage.

This unwillingness to engage can be seen as a scale: from applying insufficient force when needed through conducting fewer street interrogations to minimizing exposure in police–public encounters altogether. For such departments, BWCs join a growing concern in society about risk (Garland, 2003). In policing, there have been several contributors to the rise in risk aversion. For example, legislation and the higher courts have been argued to enhance this aversion: ‘It is not surprising that the police service, as a law enforcement body, has been keen not to contravene legislation, even at its margins. Proactive ‘safety first’ behaviour has been particularly apparent where agencies such as the Health and Safety Executive and the Independent Police Complaints Commission were created with remits of enforcement in specific areas [against officers’ use of force]’ (Heaton, 2011, p. 83).

To add to this complexity, recent stories that went viral in the news about what is expected from police officers who wear BWCs (‘Chief Constables and presidents of nations mention these devices as ‘the’ technology to restore confidence in policing as a social institution’; Obama, 2017) may have also contributed to the withdrawal from using force. To some extent, this withdrawal can be construed as what Nix and Wolfe (2016) and others have referred to as ‘de-policing’ following the public unrest in Ferguson, Missouri that gave rise to the ‘Black Lives Matter’ movement. Nix and Wolfe (2016) suggested that this ‘Ferguson effect’, operationalized by reduced motivation stemming from recent negative publicity, is associated with less willingness to engage in community partnership.⁸

⁸ However, when controlling for organizational justice and self-legitimacy, this effect is nil—suggesting that officers who ‘have confidence in their authority or perceive their agency as fair are more willing to partner with the community to solve problems, regardless of the effects of negative publicity’ (Nix and Wolfe, 2016, p. 1). However, the unmitigated effect remains a challenge that forces need to address these days.

Thus, the credible deterrent effect of a BWC is so strong that it leads to inertia. This can be seen as a way of physically withdrawing from situations that are stressful (e.g. Euwema *et al.*, 2004, p. 34). Consequently, as shown in Area D in Fig. 1, we would observe an overall reduction in the use of force, but mostly because officers are over-deterred from applying powers more broadly. The alternative to ‘kicking back’ is to ensure that the BWC programme does not materialize (Todd and Murphy, 2016); however, we suspect that this is unlikely to be the case anymore, with the intense pressure to use BWCs in policing.

Optimal deterrence. Somewhere between minimal deterrence and maximum deterrence is optimal deterrence, which is both cost-effective and proportional, thus achieving the hypothesized aim of the intervention. In the case of surveillance technologies like BWCs, compliance with the police protocols can be achieved but with a reasonable degree of necessary discretion as well.

Optimal deterrence is not a new concept, and there is a longstanding tradition in economics on methods of establishing cost-efficient incentives to deter violations of rules (Becker, 1993). It is difficult to estimate the exact ‘deterrence dosage’ that is required. In fact, the economic term ‘optimal’ is muddled, as argued by Sunstein *et al.* (1999, p. 4): ‘outside of the context of punitive damages, psychological work on punishment has suggested that when thinking about punishment, people are not simple consequentialists, and that their ideas about punishment diverge from what would be expected from an optimal deterrence approach’. Still, there is a point where the deterrence effect of BWCs is ‘just right’, in the sense that the intervention produces the optimum results for the police department but with the least backfiring effect possible (Weishaar, 2013; Cooter, 1989). If officers act rationally in deciding whether to use inappropriate force, BWCs can deter officers from rule breaking by creating an incentive scheme that makes them

better off by obeying police rules rather than violating them. The basic idea, as argued by Oded (2013, p. 21), is that, if would-be non-compliers know that rule breaking triggers sanctions, then they may be deterred from breaking the police code of conduct.

Discussion

In the current article, we have sought to provide a more robust causal mechanism for BWCs within the framework of deterrence theory. These devices are adopted by a growing number of police departments, and as the evidence cannot keep up with the purchasing orders, scholars have neglected to incorporate a theoretical framework. The deterrence spectrum is one possible structure—and we believe there are at least three conclusions that immediately arise from the model.

The question of BWCs discretion policy and the slippery slope problem

Research shows that the prominent factor in the decision to violate rules is heavily influenced by the perceived risk of apprehension (Zimring *et al.* 1973; Becker, 1974; Williams and Hawkins, 1986; Klepper and Nagin, 1989; Nagin, 1998, 2013a; Loughran *et al.*, 2012). Awareness to this risk was found to be highly malleable to proximal influences which include objective sanction risks (Apel, 2013)—and among these objective risks, presence of apparatus that can get you caught—i.e. an activated BWC—is an important ecological factor cue that inhibits criminal conduct. This ‘certainty effect’ implies one major implication in our context: the camera must be switched on, and the parties to the interaction should not have the powers to turn off the camera. If the certainty effect can be overruled, *prima facie*, then it creates a slippery slope. Indeed, it seems reasonable that particular types of incidents or victims should be excluded—however, these must be extremely unusual: naked victims, child sexual exploitation and when dealing with informants.

Yet there are many police departments that provide a wide range of opting-outs, which can be catastrophic to the certainty effect of BWCs. We believe that lenient or ‘liberal’ BWCs activation policies are a slippery slope: exclusion criteria will soon become the prominent activation patterns, and without negative reinforcements then the policy will become toothless. Two examples are noteworthy: the Metropolitan Police Service (MPS) and the Israeli Police Service (IPS).

MPS’s Body worn Video Manual of Guidance (Operational Considerations) Version 13.0 (2015) states in Article 4: ‘As the decision to record rests with the user, so too does the decision to stop recording.’ There is indeed ‘an expectation’ from the officer to use BWCs in any number of types of policing scenarios (p. 6). However, there is also a clear distinction between an anticipation from the officer to use BWCs and a proper requirement, where deviation from protocol would result in disciplinary actions. The suggestive undertone sends the message that it is the duty of the officer to make the decision when it is or it is not appropriate (i.e. ‘proportionate or lawful’) to record police–public interactions. It might be a good policy for most police officers, however, not for every one of them.

Consider another part of MPS’s policy, which places the onus of making that decision on the officer to turn on the device: in incidents of use of force. Article 3c of the guideline suggests that the officer should anticipate that an incident of use of force might occur, and at that moment the officer should record the interaction.⁹ One could see how easy it would be for the unprofessional officer to argue that, under the circumstances, she was not in a position to turn on the device, or that she did not anticipate a use of force. This suggestive policy will not deter her from applying unnecessary force, because the sanction risk is low. The camera could, for

example, be turned on while the parties are already in a physical struggle, and the antecedents of this aggressive interaction have gone unrecorded. Again, this policy could work well for the vast majority officer, because the use of unnecessary or disproportionate force is a very unusual scenario anyway, involving a small fraction of unprofessional police officers.

In a similar way, although somewhat less ‘liberal’ in their application of the research evidence, IPS Operating Procedure 90.221.103.004 (2016) dictates that the camera can be turned off ‘... when the need arises to protect informants, to conceal policing or *investigation tactics*, or exposing internal consultations... . When these circumstances no longer present, the officers shall activate their BWC’ (emphasis added). In Section 3, the Operating Procedure then states (emphasis added):

3. Naturally, there might be circumstances in which the police officer was not able to activate the BWC before arriving to the scene, or inform the people in house that he has a BWC before entering the premises that a camera is in use. Such events could take place when arriving at a scene in which serious crime has occurred in front of the officer, *urgent circumstances when activation of BWC is not possible*, events in which the life of the officer or a member of the public is at risk, *or when there are any technical issues with the BWCs*. When these circumstances are no longer present, the officer shall activate the BWC as soon as possible.

We believe these circumstances are broad and can be left for interpretations. Any number of instances

⁹ ‘At incidents where users use force or where there is a likelihood that the use of force may be necessary, the use of BWV is a proportionate means of corroborating the facts of the incident for later presentation as evidence and can also demonstrate transparency in respect of police actions... . Where it is possible to commence recording prior to force being use – for example, when users face spontaneous and/or unexpected violence, the user should activate recording as soon as it is reasonable practicable to do so.’

of use of force can fall into situations of ‘urgent circumstances when activation of BWC is not possible’ and—more importantly—they allow unprofessional officers to be able to justify their actions and not be deterred. Likewise, there should be no technical issues with the devices (and if there are, why purchase them?), but when the guideline stipulates that such instances will take place, it sends the wrong message to some officers: ‘here is how you can circumvent the policy’.

Technological fixes

If indeed activation is paramount to the success of BWCs, then there may be technological solutions. First, an automated sequence of camera activation is essential, at the very least to assist the police officers in the line of duty. For instance, BWCs can be activated immediately when certain environmental cues are triggered, such as GPS activation when entering hotspots, when leaving the police vehicle, when removing handcuffs or a weapon from the holster, when turning on the siren, or when an emergency call for service is registered on the officer’s individual radio. This way, the officer does not need to be concerned with activating the camera, as it will turn on automatically. Turning off BWCs in police–public encounters will therefore be the exception (under the stronger discretion model), and a system of reasonable justifications for turning them off will be required.

It ought to be recognized that, as these devices become more commonplace in law enforcement, one of the most debatable issues will be the limitation they put on officers’ discretion. For decades, officers have been trained to apply their discretion on the applicability of the use of force, on whether or not to arrest a suspect, and, more broadly, on how best to handle victims and suspects. Yet from all the evidence we have seen thus far, ‘on-the-spot’ powers of activation of BWCs are not only ineffective but can even backfire. Equally important, BWCs will miss the crucial evidence that provides the justification for the use of force, the decision to arrest, or the reasons that officers responded as they did to

the situation (Young and Ready, 2015). This conclusion—that officers should not make the decision as to when to activate the camera—however, seemingly undermines the discretion that officers have been taught to value as an aspect of their professional identity. Insofar as law enforcement is concerned, people do not like to be told how to do their job. However, all unjustified or disproportional use of force is a result of poor judgement calls, and officers are less likely to deviate from protocol when they are being observed by BWCs. Transparency inevitably leads to greater accountability, and when following protocol, officers are less likely to make a wrong decision. To be sure, under this BWC policy regime, officers are not completely stripped of their power of discretion; they are merely changing the focus from activation to deactivation of the devices.

Thus, it is clear that BWCs alone cannot achieve the hypothesized goals of BWCs. Officers must notify the people with whom they are engaged that the encounter is being videotaped AND they must turn on the camera at the very first moment, before the encounter escalates. It would be counterproductive to turn on the camera while the event is escalating, as the suspect can view the turning on of the camera as a confrontational reaction made by the officer. More importantly, however, is that the verbal proclamation that the incident is being recorded, which ought to come as soon as the interaction commences and be the very first thing the officer tells his counterparties, engrains within the parties the awareness that indeed the interaction is being recorded. This policy guideline explicitly means that police officers must relinquish some of their discretionary power to turn on the BWCs as they deem necessary. It may not be easy, as officers might feel reluctant to give this power away. However, optimum deterrence depends on it. For instance, experienced officers might feel that their clinical experience of many years is ignored and that they can make the necessary assessment as to when it is appropriate to use these devices. However, our findings do not suggest that officers

should not decide in which types of cases BWCs should be used but rather that they should not be in a position to turn on the devices during a job.

However, we need more research on this. One possible design would be to randomly assign cases to ‘strong discretion’ versus ‘weak discretion’ arms. Our findings are based on sub-group analyses, and this type of analysis does not fully remove confounding effects (Young and Ready, 2015). Notwithstanding the treatment diffusion effects (see the discussion in Ariel *et al.*, 2016c), such an experiment would provide the strongest confirmation of the deterrence spectrum model.

Broader organizational infrastructure

Third, up until now, we have been mainly concerned about the effect of BWCs on officers, but we have neglected to discuss broader organizational effects. Decision-making in policing does not happen in a vacuum. This can be vividly seen in the discussions about BWCs: one question that may come up is whether officers should be reprimanded for using profanities against certain suspects. While foul language should generally be avoided, as it is seen as vulgar, it is accepted that profanity is permissible when the officer is attempting to gain control over aggressive or otherwise dangerous street offenders. Yet, as we discussed above, we take the position that disciplinary action should not be taken in these circumstances, when such aggressive non-physical voice commands could have cooled down hostile situations instead of physical force. However, it is also generally agreed that the use of profanity in non-combatant public–police interactions is not permissible. Some form of punishment is justifiable, especially when caught on camera. So where do we draw the line? What type and level of reprimand should be applied to the officer here? Even if the punishment would be swift and certain, a simple warning or an informal conversation with the superior officer would not have a deterrent effect. The (threat of a) reprimand must be sufficiently severe; otherwise, it will not be effective—against the aggrieving party

as well as his or her peers. This point currently remains unclear.

More crucially, a prominent predictor of the success of a BWC program is the agency’s receptivity to evidence-based policing (Sherman, 2013). This essentially means that the police department embraces a scientific approach in decision-making and endorses the concept of using the best evidence available. The scientific approach usually means ‘test first, implement after’, especially when the state of the art of knowledge on a particular intervention is unstable, weak, or both. While the evidence on BWCs is accumulating, it is difficult to predict *ex ante* in which departments BWCs will be ‘successful’. Wide variations exist between police departments. What could ‘work’ for a sheriff’s department in California may not necessarily work for a national police force in the Middle East. Dissimilarities in the ways in which agencies record data, varying degrees of police misconduct, and how legitimate the force is in the eyes of senior officers can be widely different.

The problem with introducing BWCs to an entire force without a preliminary test that allows the BWCs to fail as much as it allows them to succeed is that we will never know whether changes in use of force, complaints, arrests, and criminal justice outcomes are a result of the intervention or a result of something else. Who is to say that the activation policy practiced in the UK is appropriate elsewhere? Will the rank and file embrace BWCs, or will there be a backlash, with officers considering these devices a ‘big brother’ trying to undermine their professional autonomy? Should superior officers have viewing rights to the footage captured as evidence by the patrolling officers, or should these rights be limited to specific cases? To answer these questions, controlled experiments are required.

In far too many forces, however, it is not evidence but hunches and gut feelings that seem to reign the decision-making process. Police departments must let go of complacency—or the ‘I’ve been a cop for 30 years; do you wanna tell me how to do my job?’ mentality. Sending delegates

to other forces to learn how BWCs are used is insufficient as well because merely observing how others have embraced this technology is not enough. To embrace and then install a multimillion dollar intervention in one's own agency, based on a few observations or academic papers, is reckless. Because BWCs can also backfire, to the extent that they may cause an increase in reported assaults against staff or an increase in complaints filed against the police, not testing BWCs prior to procurement is irresponsible, let alone unprofessional.

Finally, there is another important reason for testing BWCs prior to procurement: legitimacy. It is usually the case that 'testing' refers to a partnership with research institutions. What the research institution can add, which in-house testing cannot, is a substantially higher level of credibility. Consider a police force that is looking to embrace BWCs, primarily as a way to elevate the trust of the public in the police. As the level of legitimacy awarded to this police force is incredibly low,¹⁰ BWCs can potentially be a solution for increasing transparency, enhancing accountability, ensuring the integrity of officers in court, and overall professionalization of what is otherwise an institution perceived to be weak and unjust. Indeed, BWCs might do all that, but in this type of social climate, it is quite unlikely that the public would believe the results of a test conducted in-house. It is not very different from a pharmaceutical company that conducts its own clinical trials on its products: Such studies are often discredited in the scientific community and disregarded by prospective patients. In many ways, not embracing the evidence-based policing paradigm is the reason that this type of police force is perceived as, overall, illegitimate. BWCs can change policing, but the scientific paradigm that engendered them must be inextinguishable in their continued deployment. They come as a package for any agency that wants to move forward.

¹⁰ See The European Social Survey (2010).

Conclusion

As the implementation of BWCs in policing continues to grow, researchers and practitioners alike should be mindful of the theoretical mechanisms that explain how these devices could have a civilizing effect on aggressive police–public interactions. Deterrence theory is the appropriate framework, as the increased likelihood of sanction threats associated with the use of BWCs predicts less use of force. This effect of BWCs floats within a 'deterrence spectrum', ranging from minimal deterrence (e.g. weak impact on police–public contacts), through maximum deterrence (e.g. a strong effect), to counter-effective outcomes, such as police inertia. The deterrence spectrum is closely linked to activation policies, and specifically to discretion: the more officers can opt-out from mandatory activation procedures (and without consequences for deactivations), the less we should expect the BWCs to effect policing. When officers can override the sanction threat, it creates a slippery slope which would result in a toothless BWCs policy. Strong discretion is therefore inversely linked to a weak deterrent effect, and weak discretion is inversely linked to a strong deterrent effect. Given the mechanisms that are in play, more attention ought to be given to training on appropriate use of BWCs, and technological fixes that would make automatize activation. More research is needed in order to observe how the deterrence spectrum is applicable to other outcomes.

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