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Surveillance technologies and crime control: understanding police detainees' perspectives on police body-worn video (BWV) and CCTV cameras

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Report to the Criminology Research Adivsory Council
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Literature review

Policing organisations have enthusiastically incorporated new technologies into routine police work for several decades. However, recent years have seen a significant increase in the range and sophistication of technologies being deployed (Lee and McGovern 2014). Audio-visual technologies have been a recurrent feature of policing in the form of closed-circuit television (CCTV), for example, but the portability and low cost of these technologies have revolutionised policing, and not surprisingly, provoked significant debate. CCTV technology was first used as a crime prevention tool in Trafalgar Square in London in 1960 as a temporary measure to monitor crowds (Norris, McCahill & Wood 2004), and continues to be used by many Australian local governments in response to street crime. Developments in technology have supported the expansion of CCTV surveillance, as well as changing its range and sophistication.

Rapid developments in digital imaging technology in recent years have resulted in the development of relatively low cost digital video cameras that offer high resolution image quality through compact devices supported by high capacity storage of image data. The growth in digital imaging has been both reflected and supported by the adoption of these technologies in mobile phones and cameras marketed to consumers as well as a range of professional applications.

One consequence of this growth is that a very large proportion of people, particularly in wealthy nations like Australia, now have a digital video recording device on-hand at any given time. This allows a capacity to record public behaviour and post it almost instantly to social media, with the potential for the videos to become widely distributed in a very short time. News outlets now regularly draw on publicly-sourced video of events such as criminal incidents and police responses.

Another development has been the adoption by some police services, including in several Australian jurisdictions, of body-worn cameras (BWCs) - small video cameras worn on uniforms allow police to record video images of arrests and other responses to criminal activity. As this literature review will show, the use of these cameras has raised many questions around privacy concerns, impacts on the behaviour of police and accused persons and the use of video images in evidence and resolution of complaints against police.

Surveillance scholars have for some time considered the implications of the expansion of institutionally driven surveillance such as the CCTV and police BWCs (Norris and Armstrong 1999; McCahill 2002; Wilson and Sutton 2003). Whilst most surveillance cameras are privately owned and managed (Taylor & Gill 2014), scholars have focused attention on public CCTV as one of the most recognisable forms of state sanctioned technological surveillance. Attention has been given to evaluating its effectiveness (Wells, Allard & Wilson 2006; La Vigne at al. 2011; Welsh & Farrington 2003, 2008), its capacity as a new control mechanism (Gill & Loveday 2003; Norris & Armstrong 1999) and issues such as the impact of technological surveillance on privacy and regulation (Taylor 2010a). In contrast, the emergence of police BWC is a much more recent phenomena and has, so far, attracted only modest scholarly attention, although this body of work is growing.

CCTV: review of the literature

At the most basic level, closed circuit television (CCTV) can be defined as surveillance systems that comprise of ‘a network of cameras and components for monitoring, recording, and transmitting video images’ (La Vigne et al. 2011: 3). While this definition captures the basic elements of CCTV systems, they can vary widely in their complexity, interconnectivity and capability. According to Taylor and Gill (2014: 705):

> CCTV varies greatly in its application from basic schemes, involving a handful of cameras without any ongoing monitoring, to complex integrated networks that can feature automatic zoom, night vision, facial recognition, thermal imaging, automatic number plate recognition, tracking devices, 'talking' cameras and so on that are monitored continuously.

Five broad purposes have been associated with the use of CCTV (Wells, Allard & Wilson 2006). In short, these are to prevent crime, detect and identify incidents, increase public reassurance and safety and therefore reduce fear of crime, gather evidence for arrest and prosecution, and act as a general site management tool (Wells, Allard & Wilson 2006). However, a number of concerns have been identified in the literature. For example, one concern is that CCTV may unnecessarily target particular groups in society such as women, ethnic monitories and working-class youth (Wells, Allard & Wilson 2006). Another is that CCTV may negatively impact on personal privacy and raise other civil liberty issues. It may also cause displacement of crime and therefore fail to actually prevent or reduce crime (Wells, Allard & Wilson 2006).

Displacement

Debate in the CCTV often raises a concern that deployment of CCTV will cause the geographical or tactical displacement of crime, whereby criminal activity still occurs but in areas that do not have surveillance cameras (Wells, Allard & Wilson 2006; Taylor & Gill 2014). There is conflicting evidence on whether CCTV is associated with displacement, with some studies suggesting there is no displacement effect from CCTV deployment (see Wilson & Sutton 2003b; La Vigne et al. 2011). However, UK research has shown spatial displacement effects, *albeit* infrequent and inconsistent across offence types, mostly displacing crime to elsewhere within the same target area (Waples, Gill & Fisher 2009). Researchers have highlighted the difficulty of isolating the impact of cameras from other factors and assert that 'different measurements on different types of cameras in different contexts make generalising unwise' (Taylor & Gill 2014: 714–715).

Monahan (2011) notes that the field of surveillance studies 'has advanced rapidly because of empirical research on surveillance, which itself has expanded out from those doing surveillance, to those subjected to it, to those appropriating it for their own purposes' (2011: 479). The present study focuses on those being subject to surveillance, but it also has implications for those doing surveillance and those appropriating it. Indeed, this triangulation of surveillance participants is vital if we are to develop a nuanced analysis of surveillance technologies.

CCTV in Australia

The following synopsis aims to provide some indication on the development of CCTV cameras in public spaces of Australia. In July 1991, the city of Perth installed Australia's first CCTV system (Wilson & Sutton 2003a). In 2003, Wilson and Sutton reported that there were 33 CCTV schemes operating in public spaces of Australia, with the Northern Territory the only jurisdiction to not have a system installed (Wilson & Sutton 2003a). In 2005, IRIS Research reported that one in ten councils (9.1%; n=61) across Australia had a CCTV system installed (IRIS Research 2005). Queensland was the jurisdiction with the highest prevalence of CCTV systems (33% of all councils), followed by New South Wales, Western Australia (15%), South Australia (11%), Victoria (8%), and Tasmania (5%; IRIS Research 2005). More recently, Hulme, Morgan and Brown (2015) reported that over half (57% n=127) of local councils in Australia had installed at least one CCTV system. According to the research, Queensland (41%; n=28) had the highest prevalence of CCTV schemes, followed by Tasmania, Victoria, Western Australia, New South Wales, South Australia and the Northern Territory.

More recently, Hulme, Morgan and Brown (2015) reported that over half (57%; n=127) of local councils in Australia had installed at least one CCTV system. Councils that reported having CCTV-related expenditure in 2012–13 spent, on average, $84,309 (Hulme, Morgan & Brown 2015). Finally, the Australian Government recently announced that it will provide $50 million in the expansion of CCTV across the country (Attorney General's Department 2014).

The legality of using CCTV systems to monitor public areas was challenged in a case brought before the New South Wales Administrative Decisions Tribunal (ADT). A citizen of the Shoalhaven City Council area in southern New South Wales alleged that Council breached several provisions of the *Privacy and Personal Information Protection Act* 1998 (NSW) by capturing his image on CCTV cameras in the Central Business District of Nowra, the largest city centre in the Council area (NSW Caselaw 2013). The citizen alleged that Council did not have a lawful or legitimate basis for capturing his image while he was going about his normal, lawful activities and transferring those images to the state Police Force.

The ADT found that the Council had breached several principles under the privacy legislation, including through the collection of personal information that was excessive, inaccurate, incomplete and not relevant to crime prevention purposes. The Tribunal found that filming people going about their business was not reasonably necessary to prevent crime and that crime had in fact increased since the CCTV program was implemented (NSW Caselaw 2013). The Council was also found to have provided insufficient information, through signage, about the purposes of collecting personal information and to have failed to adequately safeguard the private information collected (NSW Caselaw 2013). The ADT found that Nowra Local Police had insufficient protections in place to control who was using the live CCTV monitors at the police station and whether they had been adequately trained and the Council did not monitor compliance with privacy principles.

The ADT ordered the Council to apologise and further ordered the Council to refrain from any conduct that breached the privacy principles. The Council responded to the orders by ceasing use of its CCTV system, although this was recommenced after the New South Wales Government amended the *Privacy and Personal Information Protection Act* 1998 (NSW) to exempt CCTV use by local councils from privacy laws (Australian Legal Information Institute 2014).

More recently, considerable media attention has been focused on the suggestion that a city council in Melbourne may remove CCTV cameras installed following the high profile rape and murder of Jill Meagher (eg, Michie 2016). CCTV camera images, taken from a private business, helped police identify the perpetrator and led to a state government-funded expansion of CCTV in that and other local government areas (ABC 2013).

Impact and effectiveness

Taylor (2014) has suggested that understanding of the impact and effectiveness of CCTV can be divided into a '3D model' comprised of deterrence, detection and displacement. The following review of the literature is organised as such.

Deterrence

In the case of CCTV, deterrence refers to the notion that potential offenders will not proceed to commit a crime for fear of being identified and caught on camera (Taylor & Gill 2014). The evidence of CCTV as a deterrence measure for crime in Australia and overseas, however, would appear to be

fairly limited. Wells, Allard and Wilson (2006) evaluated the effectiveness of CCTV as a crime prevention tool in public spaces of the Gold Coast and on the Queensland Rail Citytrain network. The study involved an observational analysis, interviews with key personnel, a review of relevant documentation, surveys conducted with the public and an analysis of crime statistics. From the observational study, 181 incidents were captured by CCTV surveillance system leading to 51 arrests, of which seven were believed to be the direct result of the camera network. From the survey research, the majority of respondents supported the use of CCTV cameras as a crime control strategy, but some questioned whether they were being actively monitored and whether they were able to prevent crime. From the impact studies, the implementation of CCTV in Surfers Paradise resulted in increases in total offences against the person and weapon offences, and had no significant impact on property offences or other offences. Similarly, the implementation of CCTV in Broadbeach showed no effect on total offences or total property offences (Wells, Allard & Wilson 2006). According to the Wells, Allard and Wilson 2006: iii):

> The effectiveness of CCTV as a crime prevention tool is questionable. From this research it appears CCTV is effective at detecting violent crime and/or may result in increased reporting as opposed to preventing any type of crime.

Similar findings were found by Gill and Loveday (2003) in their study of offenders' views of CCTV as a means of deterring crime. In their study, face-to-face interviews were conducted with 77 convicted male inmates in British prisons who had previously committed a theft or fraud offence. Interview questions sought to obtain offenders' approaches to committing an offence and their assessment of the risks involved. Of the total 77 offenders, 32 (41.5%) reported committing an offence in a location where CCTV was installed, of which only two reported that CCTV had made the crime more difficult to commit. The majority of offenders did not believe that CCTV would be a factor in their arrest. Key reasons for not viewing CCTV as a threat included that they could wear disguise, and that the offence and getaway would take place so quickly that there would be little possibility of being identified, even if someone was watching the footage. Other reasons included the view that anyone watching the footage would not have a clear image of their face, that the images would be of poor quality, and that the video footage would not be kept for long. Taken as a whole, the findings indicate that offenders are not deterred from CCTV surveillance—that is, they do not perceive it as a serious threat and perceive it to be fairly easily circumvented. However, offenders who were aware that footage from the CCTV surveillance assisted in their arrest were more likely to consider CCTV as a threat compared with those who had no knowledge of CCTV playing a role (Gill & Loveday 2003). An important caveat to these findings is that the resolution and related technological capabilities of CCTV, such as the addition of face recognition, have increased substantially in recent years and are much more likely to produce clear and high quality images now than at the time of this study. However, what remains uncertain is the extent to which offenders are aware of these improvements and whether they impact on their perceptions and behaviours.

For Welsh and Farrington (2009), the effectiveness of CCTV as a deterrence measure was more promising. In their meta-analysis of CCTV evaluations worldwide (i.e., UK, US, Canada, Norway & Sweden), they found that there was a modest (16%) yet significant reduction in crime in areas with CCTV (compared with no CCTV). However, this decrease in crime was largely due to the effectiveness of CCTV schemes in car parks, where there was a 51 percent reduction in crime. In comparison to other public settings, schemes in city and town centres and public housing communities had small and non-significant effects on crime (a 7% decrease). While schemes on public transport (a 23% decrease) had greater effects, they were still non-significant. In addition, results from schemes

evaluated in the UK showed to be more effective at reducing crime. Similarly, this was largely due to the evaluations of CCTV in car parks. However, and importantly, it is acknowledged that in a number of the studies CCTV was not the sole intervention but rather was accompanied by signage, fencing and pay barriers, which could have confounding impacts and result in overstating the effectiveness of CCTV (Taylor, 2010b). In concluding, the authors noted that it is possible that the number of cameras installed and their degree of coverage may have contributed to their effectiveness, yet more research is needed (Welsh & Farrington 2009).

More recent studies have obtained similar findings. La Vigne and colleagues (2011) evaluated how CCTV cameras were being used and whether they were impacting on crime in three US cities: Baltimore (Maryland); Chicago (Illinois); and Washington (DC). Baltimore installed a large number of CCTV cameras in its downtown area and assigned police to monitor live video feeds. Chicago installed an extensive network of CCTV cameras and allowed access to all officers. Washington installed the fewest cameras, placed them in high crime areas, and restricted live monitoring due to privacy concerns. The results showed that the cameras reduced overall crime in three of the four Baltimore locations (20%, 25% & 35% respectfully) without displacement effects, while no reduction in crime was found at the third location. Likewise, the cameras reduced overall crime in one of the two Chicago locations (a 13% reduction), while no reduction in crime was attributed to the presence of cameras for the second location. In Washington, weapon and violent crime decreased, but it was not possible to isolate the effect of CCTV cameras on this reduction.

The effect of CCTV in preventing motor vehicle theft, theft from motor vehicles and violent crime in Newark, New Jersey was examined in a study using geographic information system (GIS) and propensity score matching (PSM) techniques (Piza 2016). This followed earlier studies into the Newark CCTV system in earlier stages of its development when 73 cameras were operating (Caplan, Kennedy & Petrossian 2011) and when in its full expansion to 146 cameras (Piza, Caplan & Kennedy 2014). While the earlier study (Caplan, Kennedy & Petrossian 2011) found system-wide reductions in violent crime, motor vehicle theft and theft from motor vehicles, comparable results were not replicated in the later study (Piza, Caplan & Kennedy 2014). The most recent study (Piza 2016) sought to re-examine the effects of CCTV in Newark, ensuring equivalency between target and control areas in a way not possible in the first study, controlling for attributes of the places where cameras were installed.

In the most recent Newark study, units of analysis were the CCTV viewing areas or 'viewsheds', determined through GIS and aerial images (Piza 2016). Treatment cases were matched with controls using PSM to ensure equivalence and create a quasi-scientific experiment approximating a randomised control trial. The study found only modest support for the effectiveness of CCTV in preventing motor vehicle theft, with a statistically significant reduction in motor vehicle theft in just over 20 percent of treated viewsheds. Crime reduction benefits were seen cumulatively across the viewsheds, but only in some individual viewsheds. No crime reduction effect was seen, at a cumulative or individual viewshed level, for theft from motor vehicles or violent crime. The author concluded that while CCTV may assist jurisdictions wanting to reduce motor vehicle theft, those seeking to reduce other crime types may not benefit from CCTV, at least without using it alongside other evidence-based strategies (Piza 2016).

The research suggests that in locations where the cameras were sufficiently concentrated and routinely monitored by trained staff, the impact on crime was significant and cost-beneficial, particularly where CCTV is actively monitored and police are able to respond quickly when offending behaviour is observed (Caplan, Kennedy & Petrossian 2011; La Vigne et al. 2011; Cerezo 2013; Piza,

Caplan, Kennedy & Gilchrist 2015). However there is mixed evidence regarding whether CCTV leads to displacement of crime (Cerezo 2013) and some research has suggested strategic placement of cameras is no more effective at deterring crime than random placement (Caplan, Kennedy & Petrossian 2011).

Detection

It has been put forward by a number of scholars that there has been a recent shift to using CCTV as an intelligence gathering tool to detect and identify offenders, rather than primarily being used as a deterrence measure (Hulme, Morgan & Brown 2015; Taylor 2014). For example, Hulme, Morgan and Brown (2015) examined the prevalence and characteristics of open-street CCTV systems in Australia managed by local councils. A key component of the survey was to explore the use of CCTV footage by police. The results of their analysis showed that four out of five councils (81%) had received at least one request from police for footage from a CCTV camera they operated. Of the total councils, 20 percent received requests weekly, 19 percent received requests monthly, and fifteen percent had not received a request for footage during that year. Councils were also asked to indicate the purposes of police using the footage. The vast majority (69%) of councils reported that footage was used to successfully identify an offender, followed by to assist in the prosecution of an offender (55%), to seek information from the public about a crime (32%), and in a community safety message (15%). Taken as a whole, the study suggests that police use local government CCTV footage in criminal investigations. However, the authors argued that further research would be required to understand fully the impact of CCTV footage in criminal investigations and their capacity to assist in the identification and apprehension of offenders (Hulme, Morgan & Brown 2015).

However, Taylor and Gill (2014: 714) maintain that the ability of CCTV to successfully identify offenders 'should not be overstated'. They cite evidence indicating that potential offenders can take simply steps to evade detection by CCTV cameras. For example, and as previously noted, Gill and Loveday (2003) conducted face-to-face interviews with 77 convicted male inmates in British prisons who had previously committed street robberies, burglaries, card frauds and shop thefts. The results of their analysis showed that generally CCTV was not perceived as a threat by the offenders. Offenders believed they could disguise their identity by wearing hoods and reversible clothing. In addition, they found that the offenders believed they could commit an offence and get away quickly so that there would be little possibility of being identified and apprehended, even if someone was watching the footage. According to Gill and Loveday (2003):

> The presence of CCTV did not appear to be a major concern for the 19 street robbers. Only two reported specifically seeking out a location which did not have CCTV, and while others discussed an offence where CCTV was present, all of them said that CCTV did not affect the way the offence was committed (Gill & Loveday 2003: 18)….The shop thieves interviewed did not consider CCTV to be something that made their offence difficult to commit, but it was something they had to consider and 'work around' (Gill & Loveday 2003: 20).

Displacement

A major concern of CCTV is that it will cause the geographical or tactical displacement of crime (Wells, Allard & Wilson 2006). In particular, a key concern is that CCTV cameras will shift crime to areas that are not under surveillance (Wells, Allard & Wilson 2006; Taylor & Gill 2014). Yet, there is conflicting evidence on whether CCTV is associated with displacement, with some studies suggesting no displacement effects (see Wilson & Sutton 2003b; La Vigne et al. 2011), while others indicate a

link (see Waples, Gill & Fisher 2009). Researchers attribute such debate to the fact that it is difficult to pinpoint whether CCTV is associated with displacement of crime, and that 'different measurements on different types of cameras in different contexts make generalising unwise' (Taylor & Gill 2014: 714-715).

Wilson and Sutton (2003b) reviewed the operation of CCTV in public places of Australia. A key component of the review was to consider the displacement or crime and police perceptions of offender awareness of surveillance systems. In general, police perceived CCTV to assist policing in a number of ways including to co-ordinate police responses to incidents, improve detection and clear up rates, and provide evidence for arrest and prosecution. While police noted that there can occasionally be issues with image quality, they generally perceived CCTV to be invaluable as 'a picture speaks a thousand words' (Wilson & Sutton 2003b: 106).In terms of displacement, the authors noted that there was some anecdotal evidence to suggest that CCTV may result in displacement of street-level drug dealing, but more research is needed in order to produce more conclusive evidence. In addition, police did not necessary perceive displacement to be a negative:

> If for example you put cameras up and people go 'let's not go to _____ because chances are we'll get arrested by the cameras' and they say 'let's go to _____' our attitude is basically it's not our problem. I know that's a very selfish attitude but it's an attitude that I suppose realistically we have to take. Because our role is to make this community safe, and then I suppose it's about that community advocating to get the same crime prevention strategy in place too. But if this community or any community is prepared to pay for it or see it as a positive thing I think they should reap the benefits of it. So I don't really see it [displacement] as a major problem (anonymous CCTV operator, quoted in Wilson & Sutton 2003b: 107).

In terms of offender awareness of CCTV cameras, police generally believed that a small group of offenders, predominantly street-level drug dealers, would have awareness of the CCTV surveillance cameras in operation. However, it was also suggested that offenders become complacent, and while the presence of a camera may initially alter their behaviour, offenders often return to familiar locations even with the knowledge that there are cameras operating in the area. In concluding, the authors noted that gaining the offender perspective would provide valuable insight into the impact and effectiveness of CCTV for individual locations (Wilson & Sutton 2003b).

Summary

There has been rapid expansion of CCTV in public spaces internationally, and whilst levels of coverage remain relatively modest in Australia there has been a large increase over the past decade. The present review aimed to provide an overview of prior research exploring the effectiveness and impact of CCTV on offenders and crime. There would appear to be conflicting evidence as to whether CCTV can prevent and in turn reduce crime, with some studies suggesting it can reduce crime under certain circumstances, while others indicate no difference. In particular, there would appear to be a range of factors that are important in determining the effectiveness of CCTV, including location of cameras, type of public space, quality of images, and the perception of those seeking to commit crime on whether CCTV poses a risk of apprehension. In this sense, the effectiveness of CCTV could arguably be determined by how and when it is deployed and operated (albeit limited research exists to inform such initiatives).

The research also highlighted the importance of gaining the offender perspective on CCTV camera surveillance. Very little research has been conducted on the offender perspective on police

surveillance devices, and none in the Australian context. As such the present study will begin to fill this gap in research. In light of the rapid expansion of CCTV in public spaces of Australia, as well as the significant costs associated with its implementation, the need to better understand its effectiveness as a situational crime prevention and crime control measure is crucial.

Monahan (2011) notes that the field of surveillance studies 'has advanced rapidly because of empirical research on surveillance, which itself has expanded out from those doing surveillance, to those subjected to it, to those appropriating it for their own purposes (2011:479). The present study focuses on 'those being subject to' surveillance, but it also has implications for 'those doing surveillance', and 'those appropriating it'. Indeed, this triangulation of surveillance participants is vital if we are to develop a nuanced analysis of surveillance technologies.

Police BWCs: review of the literature

In one of the first attempts to review the research field on police BWCs, White (2014) noted that BWCs include a number of features that can vary across manufacturers. According to White (2014: 12), some include 'a small camera worn by the officer (on a shirt lapel, hat or sunglasses) that captures what the officer sees', while others include a 'pager-sized device that officers wear on their torso'. He also identified a number of possible benefits and challenges related to the use of police BWCs. Suggested, but not evidenced, benefits associated with the use of police BWC were put forward by White (2014), including:

- increased transparency and citizen views of police legitimacy;
- improved behaviour among both police officers and citizens;
- evidentiary benefits that expedite resolution of citizen complaints or lawsuits and that improve evidence for arrest and prosecution; and
- opportunities for police training.

Key concerns identified by White (2014) included:

- citizen privacy concerns;
- concerns for police officer privacy;
- concerns for officer health and safety;
- investments in terms of training and policy development; and
- a substantial commitment of finances, resources, and logistical issues.

Police BWCs in Australia

The wearing of point of view (POV) digital video cameras by individuals are not in themselves new technology, having been used for some years by the military and also by those recording their own activities, particularly sporting endeavours (Bud 2016). Nonetheless, the use of BWCs by police represents a relatively new development internationally and in Australia. Most jurisdictions within Australia have trialled, or are planning to trial, police BWCs with frontline police officers. What follows is a brief description of the current status of police BWCs in Australia.

Police BWCs were first trialled in Northbridge, Western Australia in 2007 (Sapienza 2009), and appear to be growing increasingly prevalent in Australia. On 23 March 2010, the Queensland Police Force commenced a trial of 10 police BWCs in Townsville and Toowoomba Districts (Taser Review

Implementation Group 2011). According to media reports, Frankston police in Victoria trialled the use of 22 police BWCs in 2013–14, and Victoria police are currently evaluating the project (Victorian Government Solicitors Office 2015). In 2014, the Northern Territory Police Force commenced a trial of 48 police BWCs allocated between police officers in selected regions (Northern Territory Police 2015). According to media reports, Tasmania police have been trialling BWCs in various training scenarios conducted by the Special Operations Group (Billings 2015). In the 2015–16 SA Budget, $5.9 million was allocated to roll out police BWCs to frontline police officers (SA Government 2015). The NSW Police Force reported in 2015 that, following the extensive trial of BWC, the NSW Government allocated $4 million to roll-out BWC to NSW police officers (NSW Police Force 2015).

In May 2014, the NSW Government released a media statement in relation to funds being made available for BWCs for frontline police officers. The Minister for Police and Emergency Services, Stuart Ayres, noted that the 'NSW Police Force [had] been trialling the use of body worn video for frontline officers with very positive results,' including changes in the behaviour of potential offenders due to their being recorded, production of an independent and accurate recording of events and a reduction in 'frivolous claims' of misconduct against police (Ayres 2014).

Accountability

> Accountability has been the rallying motivation behind the introduction of body-worn cameras. But this momentum has not been accompanied by a corresponding vision for what accountability as a process should look like, or what structures are necessarily put in place to support that process (Mateescu, Rosenblat & boyd 2016: 25).

The introduction of BWCs by police agencies in the United States was in large part the product of high profile shootings of citizens in controversial circumstances, leading to calls at a national level for greater accountability among the 18,000 law enforcement agencies across the country (Taylor 2016). In 2015 President Barack Obama pledged funding for the roll-out of BWCs across the US, while Presidential candidate Hillary Clinton followed this by stating that every police agency in the country should have BWCs to improve transparency and accountability (Taylor 2016). The introduction of BWCs into the Netherlands in 2009 was linked squarely to the reduction of violence against the police (Timan 2016). Greater police accountability, as well as the perceived improved behaviour of members of the public they interact with, has therefore been one of the primary benefits attributed to BWCs. Nonetheless, questions of accountability have been an important consideration in the literature, although little empirical data exists to substantiate claims that police BWCs will make a difference. Furthermore, enhanced accountability will rely on the consistent and appropriate application of procedures and systems of governance.

Perhaps the most serious challenge to accountability is the discretion afforded to officers to turn cameras on and off (Taylor 2016), potentially selectively recording instances of citizen misbehaviour while choosing not to record officer misbehaviour. Related to this is the potential capacity to selectively delete parts of a recording. The American Civil Liberties Union (2015, cited in Taylor 2016) has suggested that BWC policies should ideally require continuous recording, so that selectivity in recording is not an issue. Continuous recording would prevent officers being able to turn off cameras to hide misconduct. It would also avoid issues such as officers forgetting to turn cameras on, or being unable to in the face of quickly unfolding situations or situations being aggravated by the activation of cameras (Taylor 2016). However, there are pragmatic barriers to continuous recording, including battery life and the recording of aspects of police operations that do not involve engagement with the public, but which could create security issues if footage became public. In

addition, continuous recording raises a range of serious privacy concerns and data issues, as discussed below.

If continuous recording is not practical or appropriate, decisions around when to have cameras on and off become an issue of discretion and autonomy. Discretion is a central consideration in operational policing and in the application of criminal justice more broadly and by its very nature can be misused. There is evidence of this in the use of surveillance technology. A journalistic examination of police logs found that 80 percent of in-car 'dash cam' recordings made by Chicago police were missing audio, with this attributed to 'officer error' or 'intentional destruction' (Balko 2016). Levels of discretion in the use of BWCs will vary between jurisdictions and across time and will be influenced by operational circumstances. It has been suggested that the use of continuous recording may negatively impact on the use of discretion as officers may be unwilling to make decisions that deviate from the clear-cut application of law (Taylor 2016), even if doing so might produce a better outcome.

A range of responses are available to address the potential threats to accountability of misused discretion. In some jurisdictions, BWCs provide a live stream to an operations centre that may also monitor CCTV streams (Timan 2016). Personnel in the operations room are able to aid and direct officers, which can bring the benefits of a broader view of the environment and unfolding events, but also potentially reduces frontline officers' capacity to respond with discretion and increases stresses upon those officers (Timan 2016). Technological solutions include the use of sophisticated features that automatically trigger recording such as accelerometers and sensors that can turn cameras on when officers are moving quickly, exiting vehicles, or entering predefined geographic spaces (Mateescu, Rosenblat and boyd 2016). Some devices have an audio-only mode, the use of which bears further consideration; audio recording has received little attention in the literature, which has strongly focused on video recording (Lippert & Newell 2016).

Privacy concerns

Police BWCs have, not surprisingly, triggered concerns regarding privacy. Privacy issues arising from BWCs not only impact members of the public, but also the police officers themselves, and can potentially impact the legitimacy and acceptance of the camera's use. In the Surveillance Devices Amendment (Police Body-Worn Video) Bill 2014 (NSW), it was noted that:

> there may be some changes as technology continues to progress but it is important that legislators in this place are aware of the advances and take advantage of them while protecting the hard-won privacy rights of individuals and protecting police officers (Parliament of New South Wales 2014: 2006).

Likewise, the Northern Territory Police Force noted that:

> To have the cameras 'always on' may result in private or confidential interactions with the public being recorded and also may represent a significant intrusion into the privacy of those who might be caught on camera…It is understandable that some people may be concerned about officers recording their interactions with the public at incidents. They may be worried that footage concerning them may be held on police data servers. This is a key reason why officers will not indiscriminately record all interactions and activity. (Northern Territory Police 2015: 1).

Privacy concerns have been raised in much of the recent commentary on BWC use. Vulnerable populations, such as homeless people who by necessity live their lives largely in public view, Indigenous Australians and young people who tend to socialise in public, and crime victims may all benefit from greater anonymity and face particular privacy infringements from surveillance technology (Mateescu, Rosenblat & boyd 2016; Palmer 2016; Taylor 2016). Police officers with BWCs may intentionally or inadvertently record images while interacting with citizens inside their private homes, potentially capturing images of family members in the process (Bud 2016). As BWCs are worn on the upper part of an officer's body – usually around shoulder height or attached to headwear – they tend to clearly record sensitive details such as the facial features of subjects, particularly when newer high resolution equipment is used (Timan 2016). The use of biometric software to give capabilities such as iris scanning and facial recognition, already present in some BWCs in use overseas, has the potential to extend the use of BWCs well beyond their originally intended applications (Mateescu, Rosenblat & boyd 2016).

Privacy concerns also give rise to issues of consent. As technological improvements allow BWCs to become smaller and more discrete, there becomes an increasing concern that citizens may not be aware they are being recorded, although this may be off-set by increasing familiarity and widespread use (Timan 2016). While legislation and policy may require officers to inform citizens that they are being recorded this does not necessarily extend to bystanders and others within the camera's field of view, and those informed may not have the right to refuse or withdraw consent (Bud 2016; Taylor 2016). There are also clearly times when it is not in the interests of law enforcement to record interactions. For example, when liaising with informants, witnesses who wish to remain anonymous and victims who are concerned about their identity and testimony being captured (Taylor, 2016).

An example of efforts to manage privacy concerns is reflected in the Northern Territory Police statement cited above, which went on to note its commitment to ensuring minimal intrusion into private lives and the legal constraints on its use of recorded material, in particular the requirements under the *Privacy Act* 1988 (Northern Territory Police 2015). Northern Territory Police policy is that footage not likely to be of evidential value will be removed from the system within a short time, while footage that is retained is subject to regular review and, if no longer required or likely to be required as evidence, will be disposed of.

It remains to be seen whether policies limiting the intrusion of surveillance technology into private domains and the realms of bystanders are able to be effectively implemented in practice, and how this will be balanced with police officer discretion.

A discussion of issues surrounding the introduction of BWCs in the United States noted the 'crippling' monetary costs associated with storing and managing large amounts of video data, including the resources required for reviewing footage and redacting sensitive information (Mateescu, Rosenblat & boyd 2016). Given the practicalities of resource limitations impacting police agencies, there is a risk that over the longer term activities such as reviewing and deleting data not within the scope of privacy laws and policies, and secure archiving of other data, may tend to fall away. Threats to privacy are exacerbated if laws and policy are not in place to restrict the periods for which data can be held.

The potential threats to privacy have been further exacerbated by rapid introduction of BWC technology, which in some instances has outstripped the development of legislation and policy covering its use. A February 2016 review of BWC use in the United States noted that while the vast majority of large police departments had introduced BWCs, supported by the availability of $20

million in support from the US Department of Justice, just nine states had explicit guidelines on how the cameras should be used (Joh 2016). In Canada, legislative developments have also been said to be lagging well behind technological developments and the introduction of cameras (Bud 2016). Australian privacy law and jurisprudence have been criticised as being underdeveloped and potentially able to be circumvented through their exemptions for the use and disclosure of information reasonably necessary for law enforcement purposes (Palmer 2016).

Cost issues

Deploying new technology across a police service necessarily involves a considerable capital cost, and BWC technology by its nature generates very large ongoing costs. Some of the recent commentary on BWC use has highlighted the potentially huge costs involved in capturing and storing large amounts of video data, potentially to the detriment of other areas of budgetary need (Bud 2016; Mateescu, Rosenblat & boyd 2016). Data storage has been noted as often representing the most expensive part of BWC operations (Joh 2016). Even limited use of video devices across a police agency can produce vast amounts of data, generally well beyond the capacity of the agencies to store themselves (Joh 2016). This creates the need to utilise expensive private data storage options, sometimes provided by the same companies providing the camera technology (2016).

Police behaviour and perceptions

As Lum et al. (2015) and White (2014) have emphasised, a commonly held perception in the literature is that police BWCs could improve police officer behaviour. However, professional research is very limited and whether BWCs actually lead to changes in police behaviour remains unclear (Lum et al. 2015; White 2014). One of the few available studies examined the effect of BWCs on incidents of use-of-force and citizen complaints against police in a randomized-controlled field-trial in Rialto, California Farrar & Ariel 2013; Ariel, Farrar & Sutherland 2014). In their study, the entire population of Rialto Police Department frontline officers participated in the research (n=54). The study involved random assignment of all police shifts to either experimental shifts (wearing a camera) or control shifts (not wearing a camera). The research showed that use of force incidents were twice as likely to occur during shifts without cameras as they were during shifts where cameras were in use. Likewise, a pre/post analysis of use of force and complaints data showed that the complaints against police reduced by 0.7 complaints per 1, 000 contacts to 0.07 per 1,000 contacts. The authors noted that while there may be ethical concerns regarding the use of BWCs, the benefits may indeed outweigh the costs (Ariel, Farrar & Sutherland 2014). In concluding, the authors highlighted the need for further research in relation to the effects of BWCs on those who interact with police:

> We cannot rule out the possibility that the cameras have (also) modified the behaviour of those who interacted with the police… the psychological mechanisms ought to be substantially similar, though this is an avenue best explored experimentally in the future (Farrar & Ariel 2013: 10).

An evaluation of the use of BWCs by Mesa, Arizona Police Department examined police behaviour as measured through reductions in citizen complaints against police (Rankin 2013; Roy 2014). In this study, 50 police officers were assigned to wear BWCs and 50 assigned to not wear BWCs. The results of the analysis showed that officers wearing BWCs experienced a 40 per cent decrease in departmental complaints and a 75 per cent reduction in use of force complaints, compared with the previous 12 months (Rankin 2013).

The second part of the Mesa evaluation examined officer views of BWCs (Roy 2014). Some officers saw the potential benefits of the cameras (e.g., to provide unedited events to protect themselves from videos posted to social media purporting to show police brutality), while others did not want to be 'at the mercy' of technology or have their every move being monitored. Other concerns included increases in paperwork, unnecessary recording of private conversations, keeping up with forever changing technology, the possible misuse of video footage in court, and concern about the cameras hindering police actions due to fear of reprimand. For example, one officer noted that lawyers claimed that an officer's natural body movements could make a suspect appear to be swaying more than they actually are. While the officer refuted this by saying that the video footage is clear when someone is intoxicated, he acknowledged that such situations could prevent the use of video footage in future investigations (Roy 2014).

Similar findings were obtained by Katz et al. (2014) in their study of the impact of officer body worn cameras in the Phoenix Police Department. In their study, police officers were assigned by squad areas in the Maryvale Precinct to either wear (i.e., treatment) or not wear (i.e., control) BWCs. They found that there was a significant decline in the number of complaints made against police wearing a BWC camera. According to Katz et al. (2014: 3):

> Complaints against officers who wore the cameras declined by 23 percent, compared to a 10.6 percent increase among the comparison officers and 45.1 percent increase among patrol officers in other precincts.

In addition, Katz et al. (2014) found that officers wearing BWCs were significantly less likely to have a complaint against them sustained compared with the control group and officers in other precincts. According to Katz et al. (2014:3), this suggests that ‘even if a complaint was made against a camera wearing officer the video file was likely to provide support to the officer’. Contrary to Ariel et al. (2014) who found a decrease in incidents of use of force, Katz et al. (2014) found that the number of arrests increased significantly (17% increase for those wearing a camera versus a 9% increase for the control group). In terms of officer opinions of BWCs, analysis of the self-report survey results showed that officers believed a number of complaints were not pursued due to BWCs. Officers found the technology to be relatively comfortable and easy to use. However, concerns were raised in relation to a number of technological issues (e.g., long data download times, increased IT needs) and concerns that the video might be used against them (Katz et al. 2014).

Ellis, Jenkins and Smith (2015) evaluated the impact of issuing all police on the Isle of Wight with BWCs. In their study, a survey was administered to Isle of Wight officers to obtain their views of BWCs and observational fieldwork. The vast majority of police agreed that BWCs would help to gather evidence (97.2%), identify criminals (92.8%), increase likelihood of conviction (93.9%), reduce complaints against police (95.0%), improve discipline (87.6%) and improve training for new recruits (75.4%). To a lesser extent, police agreed that BWCs would reduce crime and anti-social behaviour (60.1%), and reduce assault on police (55.2%). A second component of the evaluation involved examining recorded complaints against police ‘before’ and ‘after’ the introduction of BWCs to police. The results showed that lower level complaints against police reduced by 15 percent in the period after BWCs were issued, compared with only 5 percent with the comparison group (i.e., rest of Hampshire). The results also showed that, in terms of more serious complaints, there was an 11.5 percent reduction in complaints against police in the period after BWCs were issued, compared with only 6.9 percent for the comparison group.

The Taser Review and Implementation Group (2011) administered a survey to police concerning the trial of 10 police BWCs deployed in Townsville and Toowoomba districts. Analysis of the results showed that of the eight police who responded to the survey, almost all (n=7) used the cameras to record incidents during the trial period. The incidents reported by this very small sample primarily involved use of force by police, general policing tasks and call outs to domestic violence incidents. Officers most commonly reported recording footage in order to collect evidence for court proceedings, to record the demeanour of offenders, and to record footage in case allegations were made against police. Five of the seven officers indicated that they had used the footage to assist in the resolution of complaints against police, and four officers had used the footage to assist in court proceedings and encourage guilty pleas. In general, officers indicated that they intended to continue using such devices to collect evidence for court proceedings and to record footage in case of complaints made against police (Taser Review and Implementation Group 2011). The report provided a number of positive comments submitted by officers suggesting that the footage could result in the 'dismissal of vexatious complaints' and reporting it to be a 'great tool for evidence'. Another officer reported:

> The BWC is a great tool and has many uses. It is easy to use and has no real disadvantages. As a Shift Supervisor with access to the recording database of my subordinates, I am able to monitor their work performance and identify any issues where further training may be required. Many offenders and suspects have changed their attitudes when advised that the camera was operating and become more compliant. I also believe it will decrease the amount of complaints against Police as both vexatious complainants and officers who may have not acted appropriately are aware that the incident is being recorded and can be viewed by supervisors at a later stage. Since the beginning of the trial I have only seen positives in relation to the cameras and their uses. The issues may later present in relation to information security. This can however be overcome through policies and procedures such as each device to be identifiable and issued to station units to be signed in and out with a Taser (Taser Review Implementation Group 2011: 59).

Jennings, Fridell and Lynch (2014) obtained similar findings, reasoning that police attitudes toward BWCs are generally positive. In their evaluation of the use of BWCs by the Orlando (Florida, USA) Police Department, patrol officers were randomly assigned to the treatment group (wearing BWCs) or control group (not wearing BWCs). In contrast to the Mesa Police Department evaluation (Roy 2014), the results showed that Orlando police were generally open to and supportive of the use of BWCs. For example, officers generally reported high rates of agreement to questions such as whether they believe their agency should use cameras, and whether they would feel comfortable wearing them. Officers showed high levels of agreement with the proposition that the use of BWCs would improve citizen behaviour, as well as improving the behaviour of fellow officers in terms of behaving 'by the book' and reducing officer use of force. While officers reported mixed perceptions on whether the cameras would impact on their own behaviour, they generally agreed that the cameras would not reduce their willingness to respond to calls for service (Jennings, Fridell & Lynch 2014).

Citizen behaviour and perceptions

In addition to improving police behaviour, a commonly held perception is that BWCs will improve citizen behaviour during interactions with police—including, for example, displays of respectfulness and compliance, and a reduction in public order and assault crime (Home Office 2007; White 2014;

Lum et al. 2015). However, there appears to be very little evidence to support this claim. According to White (2014: 6):

> The decline in complaints and use of force may be tied to improved citizen behaviour, improved police officer behaviour, or a combination of the two. It may also be due to changes in citizen complaint reporting patterns (rather than a civilising effect)…available research cannot disentangle these effects; thus, more research is needed.

Likewise, according to Lum et al. (2015: 19):

> More research is needed on citizen behaviours and attitudes related to BWCs [body worn cameras], which have received less attention than those of officers.

In 2007, the British Home Office published the results of a study into the impacts of police BWCs (Home Office 2007). The study sought to quantify the benefits and issues associated with their use in Devon and Cornwall (often referred to as the Plymouth Head Camera project), particularly violence-related crime. In this study, 300 officers were trained to use 50 cameras that were made available during day and night shifts. Analysis of the results showed that, during the evaluation period, there was a small, although non-significant, reduction in violence-related incidents. The authors noted, however, that it was not possible to isolate the effect of BWCs on this reduction. As outlined in the report (Home Office 2007:8):

> Officers using BWC at anti-social behaviour hotspots noted that persons present significantly reduce the level of their behaviour when officers with head cameras attend, more so than just with the presence of a police officer or PCSO [police community support officer]. The equipment can have a greater impact than street CCTV or vehicle-borne cameras as they can be deployed at any position within the incident; those present quickly learn that the recordings include sound, and BWCs are more obvious than other CCTV systems that can blend into the background after a short time.

In addition, no complaints progressed against police officers who were wearing a BWC camera, and there was some anecdotal evidence to suggest that the cameras prevented complaints against police, and resulted in early guilty pleas (Home Office 2007).

The Phoenix evaluation explored citizen behaviour as measured through resisting arrest charges (Katz et al. 2014). In this study, 'resistance' included passive and forceful resistance, escape or flight and aggravated assault against the officer. As noted earlier, police officers were assigned by squad areas in the Maryvale Precinct to either wear (i.e., treatment) or not wear (i.e., control) BWCs. Taken as a whole, the results of their analysis suggest that the BWCs did not have an impact on suspect behaviour at point of arrest. Both groups (treatment and control) experienced an increase in the overall number of 'resistance' incidents—officers wearing a BWC camera experienced a 130.4 percent increase, while the comparison group experienced a 135.7 per cent increase. According to Katz et al. (2014: 31), 'while these percentage increase appear substantial, arrests for resistance were rare events...[and] none of the post-deployment differences between camera and non-camera officer were statistically different'. In addition, officers were asked about their perceptions regarding the impact of BWCs on citizen behaviour. Analysis of the survey results showed that officers' views were not overly positive. According to Katz et al. (2014:23):

> By the end of the study period, for example, only 25.7 percent of the target group officers believed BWCs result in citizens being more cooperative, 28.6 percent agreed that citizens will be more respectful, 11.8 percent agreed that suspects will be less likely to resist arrest, and 25.7 percent agreed that people will be generally less aggressive.

Ellis, Jenkins and Smith (2015) used public opinion surveys and recorded crime rates before and after the introduction of police BWCs to examine citizen views and the impact of BWCs on citizen behaviour respectively. In terms of the 'before' survey, they found that the public's confidence was extremely high (90% plus) for BWC to help with: gathering evidence, identifying criminals, and increasing the likelihood of conviction. The 'after' survey showed that these results remained relatively unchanged after the introduction of BWCs. However, the public's confidence in 'improving the likelihood of conviction' significantly improved. While lower levels of confidence were placed in BWCs to reduce complaints against police, reduce assaults on police officers, and reduce crime and ASB, these all improved after the introduction of BWCs. In terms of changes to reported occurrences and crimes, the results showed that reductions were noticeably larger in the Isle of Wight (where BWCs were introduced), compared with the comparison group (rest of Hampshire). For example, there was a 14.7 percent rise in overall reported occurrences in the comparison group, but a 17.7 percent drop in the experimental group (police BWCs). In addition, domestic assaults were more likely to be recorded as crime (officially). In support of this, the public noted that BWCs acted as a deterrent measure (Ellis, Jenkins & Smith 2015: 23):

> It makes it safer in town. There are less people going to cause problems as they are likely to be caught by using cameras. I think the public will behave more by having them.

In contrast to the studies reporting decreases in citizen aggression towards police, Ariel et al. (2016) conducted a global study, involving analysis of studies from 10 test sites with a total population of over two million people and drawing on data from 2.2 million police officer-hours. They found that the use of BWCs had no overall effect on the use of force by police, despite producing positive results through reductions in use of force in some places and at some times. However, they found that using BWCs led to an increased rate of assault against police officers wearing the cameras. The reasons for this increase did not emerge clearly from the study. While an increase in aggression among citizens was a possibility, the authors suggested other possibilities included an increase likelihood of police reporting assaults against them knowing they were supported by video evidence, and officers being less assertive than normal due to awareness of being recorded (Ariel et al. 2016). Other suggestions were possible skews in the data, as they strongest results for assaults against police came from the smallest studies, and the influence of officer discretion. Taylor (2016) has noted the potential for BWCs to have an aggravating effect, particularly when mental health issues, drug and alcohol use, and sensitive investigations are involved.

Investigations

Advocates of BWCs claim that footage obtained through the use of BWCs can support investigations and crime resolution (White 2014). For example, BWCs are believed to improve criminal justice outcomes by improving the quantity and quality of evidence, supporting victims and witnesses, increasing accountability, and increasing confidence and efficacy (Owens, Mann & Mckenna 2014). While research suggests the footage obtained from police BWCs may assist in the resolution of complaints made against police, very few studies have examined the impact of BWCs on arrest and prosecution (White 2014).

Owens, Mann and Mckenna (2014) tested the impact of BWCs on criminal justice outcomes for domestic abuse incidents in Essex (UK). In their study, police officers were randomly assigned to either the treatment group (to receive a BWC camera) or the control group (to not receive a BWC camera). The first component of their study involved analysis of criminal justice outcomes of domestic violence incidents. The results showed that domestic violence incidents involving BWC officers were more likely than the control group to result in one or more criminal charges compared with other sanction detections (81% of sanction detections were charges for the treatment group versus 72% in the control group). However, there was no difference in the number of incidents being recorded as crime or rates of arrest, and there were too few cases to determine the impact of BWCs on guilty pleas and sentencing. The second component of the study involved surveys and interviews of police officers in order to understand the reasons for any changes in outcomes. Officers reported that BWCs were useful in gathering evidence for evidence-led prosecutions, particularly with regard to capturing context, emotions, injuries and comments more accurately. According to Owens, Mann and Mckenna (2014) 'the interviewed officers' comments all support the increased proportion of charges found'.

Katz et al. (2014) also attempted to examine the impact of BWCs on arrests and domestic case processing. They found that, following the implementation of BWCs, BWC officers significantly increased their average daily arrests by 42.6 percent. This was almost three times the average daily arrests of the comparison group (14.6%). It should be noted that officer productivity is measured through number of arrests. In terms of impact on domestic violence cases, they found that, following the implementation of BWCs, domestic violence cases were more likely to be initiated, result in charges, and result in guilty plea or guilty verdict. They also found that cases were completed faster following the implementation of BWCs. However, the authors noted that this was largely due to the introduction of a court liaison officer who assisted with case processing. Despite the introduction of a court liaison officer, there were difficulties regarding the use of BWC footage in court. According to Katz et al. (2014:3):

> We also found that video submitted to the court was difficult to process because of logistical problems associated with chain of custody and the length of time that it took the prosecutors to review video files. While many of the problems were addressed by the precinct commander by assigning a police officer to serve as a court liaison officer, prosecutors still maintained that they did not have enough time to review video footage.

Summary

In recent years, there has been significant growth in the use of BWCs by police in Australia, as well as internationally. The present review sought to provide an overview of prior research exploring the role, impact and effectiveness of police BWCs, particularly in terms of their impact on offending behaviour. The research has confirmed that although studies are beginning to emerge some of the findings are contradictory and there remains very little established knowledge about the impact of BWCs on offenders, on the public, or indeed on police behaviour. There have been several evaluations of BWC in the UK and US, but only one Australian evaluation was available. The research highlighted instances of footage from police BWCs assisting in court proceedings, in encouraging guilty pleas, and in resolving complaints against police. However, the issue of subjectivity when interpreting video footage has raised concerns, particularly in relation to court proceedings. Concerns were also raised about the potential to record private and confidential interactions of

citizens and police alike, as well as the potential for cameras to hinder police actions due to fear of reprimand.

There would appear to be mixed findings in relation to whether police BWCs can prevent and reduce crime and disorder. Some studies indicate little or no difference in the number of incidents being recorded, while others suggest a reduction in incidents such as public order and anti-social behaviour. Conflating the issues further, empirically it is difficult to isolate the effect of police BWCs on such reductions. In addition, there is some limited evidence from the research that police BWCs can reduce incidents of use of force by police and complaints against police, but also aggravate aggression against police in some cases. However, it remains unclear as to the behavioural factors that impact upon the use of force by police and these complaints against police. As noted by White (2014), it may reflect improved police behaviour, improved citizen behaviour, or both. Likewise, some police evaluations anecdotally suggest a drop in offender resistance in response to being filmed, but no empirical data exists in relation to their impact on offenders or suspects. Furthermore, given the relatively early implementation, there might be a 'honey moon' period, as found with CCTV, and early impacts might well subside as the cameras become embedded in everyday policing practice.

Alongside the claimed benefits of BWCs sit a range of concerns about their use. In particular, issues of privacy and consent have drawn the attention of commentators, which these concerns still largely untested in practice. The ongoing direct costs of BWCs, particularly through the need to store and appropriately manage large volumes of data, will also be an issue for police agencies in coming years.

There is clearly much work to be done in developing an evidence base for the impact and effectiveness of police BWCs, particularly in the area of offender behaviour. Further research would be needed to better understand the impact of police BWCs on offending behaviour, and interactions with individuals at point of arrest. Research through the use of in-depth interviewing of offender populations would help to understand and expand on the findings presented in this review. If police BWCs are to be considered an efficacious approach to policing and crime control, then it is important that decisions about their distribution to police officers are based on empirical data on offenders' behaviours in relation to the technology. Given the increasing use of BWCs by police in Australia, the need for an evidence-based approach to inform BWC policy is apparent.

Theorising surveillance technologies and crime control

As previously noted, the objectives generally associated with the use of BWCs are to: increase transparency and citizen views of police legitimacy; improve behaviour among police officers and citizens; expedite resolution of citizen complaints of lawsuits against police; improve evidence for arrest and prosecution; and provide opportunities for police training (White 2014). In terms of CCTV, the purposes generally associated with its use are to: prevent crime; detect and identify incidents; increase public reassurance and safety and therefore reduce fear of crime; gather evidence for arrest and prosecution; and act as a general site management tool (Wells, Allard & Wilson 2006).

Two main situational crime prevention theories that focus on opportunity-reducing measures have been put forward to explain how surveillance technologies can prevent and reduce crime and disorder. The first (rational choice theory) attributes criminal behaviour to individual choices. The second (routine activity theory) highlights the role of surveillance technologies in deterring offenders.

Rational choice theory

Rational choice theory treats offenders as reasoning decision makers. According to the theory, offenders seek to benefits themselves through crime, and this involves making decisions and choices based on the available information (Cornish & Clarke 1987). The implication of this is that potential offenders will only go ahead with committing a crime if the benefits outweigh the costs. In this way, potential offenders can be deterred from committing crime where the costs or risks outweigh the rewards or benefits. Examples of empirical studies on criminal decision making, as cited by Cornish and Clarke (1987) include burglary (because for fear of encountering the householder); and illicit drug users (because a decision was made that they wanted to become part of the drug scene). In the case of CCTV, the camera acts as a visual deterrence to potential offenders by increasing the perceived risk of detection (Clarke 1997). Similarly, the presence of a police BWC camera recording a police-public encounter is bound to make non-compliance less attractive than compliance (Harris 2010).

Routine activity theory

Routine activity theory is an environmental explanation of crime. It focuses on making environmental changes to reduce the opportunity for crime to occur (Clarke 1997). According to the theory, three elements must be present for crime to occur: a likely offender, a suitable target, and the absence of a capable guardian against crime (Cohen & Felson 1979). The implication of this is that the risk of crime may be reduced by introducing a capable guardian that could intervene to deter offenders. Examples include guardians such as CCTV systems in shopping centres and public transport, electronic alarms for cars, security guards at public events, and police patrols. The theory has not been adapted to explain police BWCs but it is not hard to see how it could be. Anti-social and undesirable behaviours are bound to be less prevalent in situations where there is a capable guardian. One could argue, for example, that in the case of police-public interactions, police BWCs act as a capable guardian against such behaviours. The result is improved behaviour among police officers and public alike.

Limitations

Rational choice theory and routine activity theory do have significant limitations as explanations for preventing and reducing crime and disorder. One problem is that they assume the individual seeking to commit crime (or undesirable behaviour) is aware of being recorded (Tewksbury & Mustaine 2010; DeHaan & Vos 2003). Another problem is that they assume that the potential offender is capable of making informed decisions based on the perceived risks and rewards (Tewksbury & Mustaine 2010; DeHaan & Vos 2003). In reality, this may not be the case and may impact on the ability of surveillance technologies to prevent and reduce crime.

Welsh and Farrington (2004) also contend that surveillance technologies may actually cause crime to increase. In terms of CCTV, for example, it is possible that the knowledge of surveillance could provide a false sense of security to potential victims, and therefore, potential victims may become more susceptible to crime because they stop taking precautions (Welsh & Farrington 2004). It may also cause crime to increase through increased detection of offending. In addition, CCTV may cause crime to be displaced to other areas where no surveillance technology exists (Welsh & Farrington 2004).

Method

Ethics approval

Ethics approval was obtained from the Australian Institute of Criminology (AIC) Human Research Ethics Committee, and the Australian National University (ANU) Human Research Ethics Committee.

Data source

Data for this study were obtained from the Drug Use Monitoring in Australia (DUMA) program. The DUMA program is funded by the Commonwealth Government and delivered by the AIC. It aims to provide information on drugs and crime to inform policy initiatives, and to provide an early warning system to inform law enforcement and other stakeholders on changes to the illicit drug market (Coghlan et al. 2015). It achieves these aims by interviewing police detainees on a quarterly basis at selected police stations and watch houses across Australia. All police detainees held in custody during periods of data collection are eligible to participate, unless they are too intoxicated, mentally unfit, potentially violent or aggressive, require an interpreter, or deemed ineligible by the police custody manager. Participation is voluntary and confidential.

The DUMA self-report questionnaire is administered by a trained interviewer who is independent of police and comprises two key components—a core questionnaire and a quarterly addendum. The core questionnaire collects a range of information including demographic data and drug use information. Quarterly addenda are developed to examine topical issues of policy relevance.

For more information on the DUMA program and its methodology, please see the most recent DUMA biennial report *Drug use monitoring in Australia: 2013–14 report on drug use among police detainees* by Coghlan et al. (2015).

Survey questions

During the third quarter (July–August) and fourth quarter (October–November) of 2015, the *CCTV and police born-worn video (BWC)* addendum was administered, along with the DUMA core questionnaire. The aim of the addendum was to examine police detainees' perspectives of the use of two types of surveillance technologies deployed for the purposes of crime control—CCTV and BWCs. The addendum contained a mixture of closed and open-ended questions on the following topics:

- perceptions of CCTV and how effective CCTV is at preventing crime;
- experience of CCTV at the time of committing a crime in a public place;
- behavioural changes arising from awareness of CCTV;
- awareness of the deployment of police BWCs;
- experience of police BWCs at point of arrest; and
- perceptions of police BWCs and how they impact on police behaviour, citizen behaviour, and investigations.

The AIC developed these questions together with partners at the Australian National University and the University of Sydney, and the survey was distributed to number of stakeholders for input and suggestions prior to being administered.

Sample

The sample was drawn from police detainees interviewed during the third quarter (July–August) and fourth quarter (October–November) of 2015. In the third quarter of 2015, data were collected at four sites across Australia—Adelaide (SA), Brisbane (Qld), Perth (WA) and Surry Hills (NSW). In the fourth quarter of 2015, data were collected at four sites across Australia—Adelaide (SA), Brisbane (Qld), Perth (WA) and Bankstown (NSW). This study reports the results of these collections for adult detainees (18 years and over) at an aggregate level. Due to the small number of juveniles (17 years and under; n=8), they were excluded from analysis. A total of 899 adult detainees answered questions from the addendum questionnaire.

Results

Characteristics of the sample

In total, 899 police detainees participated in the *CCTV and police born-worn video (BWC)* addendum questionnaire; however, detainees were informed that they may end the interview at any time and that they can choose not to answer individual questions. As such, not all interviewees answered every question. Table 1 shows the breakdown of detainees by DUMA site, gender and age.

Table 1: Detainees by DUMA site, gender and age

DUMA site	n	%
Adelaide	177	20
Bankstown	24	3
Brisbane	349	39
East Perth	302	34
Surry Hills	47	5
Total	899	100
Gender	n	%
Male	749	83
Female	150	17
Total	899	100
Age	n	%
18–20	90	10
21–25	161	18
26–30	180	20
31–35	140	16
36+	328	36
Total	899	100

Note: Percentages may not add up to 100 due to rounding

Source: AIC DUMA 2015 [computer file]

Detainees may have been charged with multiple offences. Each detainee was categorised according to the most serious offence (MSO) they were being held under charge at the time of interview. The charge nominated as the most serious is based on the following offence category hierarchy, from

most serious to lease serious: violent, property, drug, DUI (Driving Under the Influence), traffic, disorder, breach, and other lesser offences. Therefore, if a detainee was charged with both a violent and drug offence, the detainee's MSO category would be violent. Table 2 shows the breakdown of detainees by MSO category.

Table 2: Detainees by most serious offence (MSO) category

MSO[a]	n	%
Violent	288	32
Property	152	17
Drug	102	11
DUI[b]	13	1
Traffic	40	4
Disorder	34	4
Breach	249	28
Other	14	2
Total	892	100

a: detainees may have been charged with multiple offences; each detainee was categorised according to the most serious offence (MSO) they were being held under charge at time of interview

b: Driving under the influence of alcohol and/or illicit drugs

Note: cases with missing data were excluded from analysis

Note: percentages may not total 100 due to rounding

Source: AIC DUMA 2015 (computer file)

Table 3 shows the breakdown of detainees by drug use in the 30 days prior to interview.

Table 3: Detainees by 30 day drug use

30 day drug use	n	%
Methamphetamine (n=897)	430	48
Cannabis (n=898)	411	46
Heroin (n=899)	62	7
Ecstasy/MDMA (n=898)	56	6
Any drug [a] (n=899)	603	67

a: includes cannabis, heroin, methamphetamine and ecstasy/MDMA

Note: cases with missing data were excluded from analysis

Source: AIC DUMA 2015 (computer file)

Perceptions of CCTV as a crime prevention tool

Detainees were asked how effective they thought the use of CCTV was at preventing crime. It should be noted that in this question they were not being asked about certain types of crime specifically, but rather about their general views. As shown in Table 4, the majority of detainees (69%; n=619) thought CCTV was effective at preventing crime to some extent—36 percent (n=321) reported *very effective* and 33 percent (n=298) reported *a little effective*. However, 21 percent (n=193) of detainees thought CCTV was *not effective* at preventing crime.

Table 4: Detainees' perceptions about the effectiveness of CCTV as a crime prevention measure

Effectiveness	n	%
Very effective	321	36
A little effective	298	33
Not effective	193	21
Don't know	87	10
Total	899	100

Source: AIC DUMA 2015 (computer file)

As a follow-up, a question was asked as to whether detainees thought there were any specific crime types that CCTV was particularly effective at preventing. For this analysis, only the responses of those who said they thought CCTV was 'very effective' or 'a little effective' at preventing crime are included. Detainees gave their responses in an open, free form way and responses were classified into crime types by the authors. Detainees were able to report more than one crime type, although some did not report any. A total of 265 detainees who thought CCTV was 'very effective' at preventing crime gave a response to this question, together with 239 detainees who thought CCTV was 'a little effective' at preventing crime.

As shown in Table 5, a total of 638 responses identified one or more crime types that respondents thought CCTV was effective at preventing. These included 65 (42 'very effective' respondents and 23 'a little effective' respondents who thought CCTV was good at preventing all types of crime. Of the specific crime types, the most commonly reported was 'assault', cited in 165 responses, predominantly by those who thought that CCTV was very effective as a crime prevention tool. The next most commonly cited crime type was theft (n=115 responses), followed by shoplifting (n=70 responses). The next most common offence type was robbery, cited in 63 responses and break and enter/burglary, which was cited in 54 responses.

A total of 20 detainees who saw CCTV as at least partly effective at preventing crime reported that they thought it was mainly effective at helping to solve crime, through providing evidence and helping police to catch the offenders. These detainees saw the benefits of CCTV in providing evidence to be used in identifying perpetrators and potentially for prosecutions, reflecting that the operation of CCTV has shifted to being more focused on evidence gathering after the event, rather than primarily a deterrence measure.

Perhaps paradoxically, 65 detainees who felt CCTV was at least partly effective at preventing crime indicated "none" in response to the crime types it was effective at preventing. This consisted of 15 respondents who thought CCTV was 'very effective' at preventing crime and 50 who thought it was 'a little effective'. However, it is not clear whether the responses classified as 'none' indicated respondents thought there were no crime types at all that CCTV was good at preventing; in many cases this response appears to indicate 'none in particular' or that the respondent could not think of any specific crime types.

Respondents were also asked whether there were any crime types CCTV was *not* good at preventing. Small numbers of detainees who reported they thought CCTV was at least somewhat effective at preventing crime identified crime types they thought CCTV was *not* effective at preventing. The offence type cited most frequently by this group was drug-related offences, identified by 30 detainees (16 who had reported CCTV to be very effective at preventing crime and 14 who thought it was a little effective). This was followed by assault, identified by 9 detainees who thought CCTV to be very effective and 24 who thought it a little effective.

Detainees who held the belief that the effectiveness of CCTV as a crime prevention tool cited a range of factors related to the technology itself such as picture quality, camera position and whether the detainee believed there was active monitoring of the cameras. Perceptions of effectiveness were also influenced by characteristics and circumstances of potential offenders, such as whether the potential offender considered the camera to be a threat, whether the offender was wearing some kind of disguise, or whether they were under the influence of drugs and/or alcohol. A number of detainees made the point that offending often happens spontaneously, so that offenders are not necessarily considering the consequences of potentially being observed or recorded.

> None because most people wear hoodies.
>
> People are either high or drunk and don't know what they are doing.
>
> Not really, crime happens spontaneously. CCTV can help catch criminals but it cannot stop crime.

Some detainees perceived that while CCTV may not be effective at preventing crime, it could assist with criminal investigations in terms of detection. These detainees saw the benefits of CCTV in providing evidence to be used in identifying perpetrators and potentially for prosecutions.

> They don't prevent anything but six months down the track when someone figures out who is on the screen they may catch them.
>
> They are not about preventing they are about using the evidence after the crime.

Table 5: Detainees' perceptions about the effectiveness of CCTV as a crime prevention measure

Offence Type	Very effective (n=265)	A little effective (n=239)
Homicide	5	4
Assault	108	57
Sexual assault	14	6

Robbery	40	23
Damage	6	5
Burglary	37	17
Theft (other than motor vehicles)	64	51
Motor vehicle theft	11	2
Shoplifting	39	31
Drug offences	9	4
Traffic	4	6
Other	16	12
All	42	23
TOTAL	395	243
None	15	50
Solve	5	15

Source: AIC DUMA 2015 (computer file)

Impact of CCTV on offending behaviour

Detainees were asked whether they were aware of the presence of a CCTV camera when attempting to commit a crime in a public place. Again, in this question detainees were not being asked about certain crime types specifically, but rather about their general views. Almost half of detainees (n=376; 42%) were aware of a CCTV camera operating in the area at the time of attempting to commit a crime, while one in three were not aware (n=260; 29%). The remaining 253 detainees (28%) had never attempted to commit a crime in a public place.

The 376 detainees who were aware of a CCTV camera when attempting to commit a crime in a public place were asked how the camera changed their behaviour. As shown in Table 6, over a third of detainees (39%; n=139) indicated that the CCTV camera had not changed their behaviour in attempting to commit a crime. Some suggested they would not change their behaviour because they were intoxicated or because their offending was for an instrumental purpose, such as stealing from a shop when they were hungry and had no money, that they would not easily be dissuaded from. Others suggested they would not change their behaviour because the CCTV recording would only be checked if they were caught.

A small but noteworthy group of detainees (3%; n=11) indicated that CCTV elicited a negative emotional response. They spoke of the presence of CCTV making them feel paranoid, anxious or stressed or making them more suspicious. From a crime prevention perspective, these emotional responses were both positive and negative. While some detainees felt their emotional response restricted their behaviour or made them more likely to be detected, others felt stressful responses

made them angry and possibly more likely to act violently. In other cases, the emotional response was unlikely to change the detainee's behaviour.

For those participants who indicated that CCTV changed their behaviour when attempting to commit a crime (53%; n=191), a key difference emerged. In all, 23 percent of detainees (n=84) indicated that the camera caused them to not go ahead with committing the crime, while 30 percent of detainees (n=107) indicated that they changed their behaviour to avoid detection by the CCTV camera. Therefore, while the knowledge of a CCTV camera caused some detainees to change their mind about committing a crime, others simply changed their behaviour to avoid being caught. Behavioural responses to CCTV included covering up detainees' faces or distinguishing features such as tattoos, wearing disguises or keeping their faces turned away from the cameras, finding blind spots or concealing drugs and money inside commonplace items.

Table 6: Behavioural changes resulting from awareness of CCTV in an attempt to commit crime in a public place

Behavioural change	n	%
No change	139	39
Changed behaviour to get around the cameras	107	30
Decided not to go ahead with committing the crime	84	23
Elicited a negative emotion	11	3
Other	19	5
Total	360	100

Note: Cases with missing data were excluded from analysis
Source: AIC DUMA 2015 (computer file)

Impact of CCTV on day-to-day behaviour

Detainees were asked whether CCTV influenced the way they behaved in public on a day-to-day basis. All detainees were asked this question, regardless of whether they had attempted to commit a crime in a public place. As shown in Table 7, the majority of detainees (74%; n=659) reported that CCTV had not influenced their behaviour in public on a day-to-day basis. However, one in four detainees (24%; n=217) reported that CCTV influenced their behaviour.

Table 7: Whether CCTV influenced behaviour on a day-to-day basis

Whether cameras influenced behaviour	n	%
No	659	74
Yes	217	24
Don't know	13	1
Total	889	100

Source: AIC DUMA 2015 (computer file)

Again, a major difference appeared among detainees who reported that CCTV influenced their behaviour (Table 8). The majority of detainees who reported that CCTV changed their behaviour on a day-to-day basis (69%; n=131) indicated that CCTV led to behavioural changes that tended to make them more compliant and law abiding. These changes extended to minor infringements of the law, such as smoking in prohibited areas.

> Behave—big brother. No street drinking, smoking where I'm not supposed to, stealing.
>
> Go about daily life without doing crime, 'cause you know that someone's watching.
>
> Just behave yourself if you're on camera because it's all recorded if you buggered up.

However, 23 percent of detainees (n=43) indicated that CCTV changed their behaviour in other ways, primarily relating to getting around the cameras, such as by disguising their appearance. In some cases these changes to day-to-day behaviour mirrored changes to offending behaviour, suggesting that these detainees were conscious that CCTV might bring them to the attention of police, perhaps resulting in detection for earlier offending behaviours. In a small number of cases (n=6; 3%) detainees indicated that they avoided CCTV altogether.

Table 8: Behavioural changes resulting from awareness of CCTV on a day-to-day basis

Behavioural change	n	%
Led to improvements in behaviour	131	69
Changed behaviour to get around the camera/s	43	23
Avoided the cameras	6	3
Other	9	5
Total	189	100

Note: includes only detainees who reported CCTV changes their behaviour on a day-to-day basis
Note: cases with missing data were excluded from analysis
Source: AIC DUMA 2015 (computer file)

Awareness of police BWCs

Detainees were asked whether they were aware that police officers in their state sometimes wore video cameras attached to the front of their uniforms. The majority of detainees (70%; n=620) were aware that police officers in their state sometimes wore cameras attached to the front of their uniforms. The remaining 30 percent (n=270) were not aware.

Table 9 shows detainees who were aware of police officers in their state sometimes wearing cameras by DUMA site location. It should be noted that the two NSW sites (i.e., Bankstown and Surry Hills) were combined into one category. Results show there were statistically significant differences between DUMA sites in terms of awareness of police sometimes wearing cameras attached to the front of their uniforms in their state. Brisbane detainees were significantly more likely than Perth and NSW detainees to report being aware ($\chi 2$ (3, n=890)=60, p=<0.001). The Cramer's V value (0.26) indicates a moderately strong association between these variables.

Table 9: Awareness of police sometimes wearing cameras attached to the front of their uniforms in their state by DUMA site location		
DUMA site location	n	%
Brisbane (n=347)	290	84*
Adelaide (n=174)	118	68
Perth (n=298)	176	59*
NSWa (n=71)	36	51*
All sites (n=890)	620	70

a: includes Bankstown and Surry Hills
Note: *indicates detainee types that are significantly different based on an analysis of adjusted residuals
Note: p<0.0001, Cramer's V 0.26
Source: AIC DUMA 2015 (computer file)

Impact of police BWCs on behaviour at point of arrest

Detainees were asked whether they thought any of the police who arrested them were wearing a camera at point of arrest for their current episode of police detention. For the total sample (n=889), 12 percent (n=106) reported the police were wearing a camera at point of arrest. However, the majority of detainees (57%; n=509) did not know whether the police were wearing a camera, and 31 percent (n=274) reported the police were not wearing a camera. This does not mean, however, that the police were not wearing a camera—simply that the detainees were not aware of the presence of a camera.

The 106 detainees who reported the police were wearing a camera at point of arrest for their current episode of police detention were asked further questions relating to their experience.

Detainees were asked how they knew the police were wearing a camera. Detainees could select multiple responses. As shown in Table 10, the majority of detainees (n=82; 79%) reported that they knew the police were wearing a camera at point of arrest because they *saw the camera*. Twenty-nine percent of detainees (n=30) reported that they *just knew the police used them*, and 28 percent of detainees (n=29) reported that *the police officer told them*. A minority of detainees (7%; n=7) reported that *the police said something to each other about using cameras*.

Table 10: Detainees who were aware of police wearing cameras at point of arrest by reason for being aware		
Reason	n	%
I saw the camera (n=104)	82	79
I just know they use them (n=104)	30	29
The police officer told me (n=104)	29	28
The police said something to each other about using cameras (n=104)	7	7

Other (n=104)	7	7

Note: includes only detainees who reported being aware of police wearing camera/s at point of arrest for their current police detention

Note: cases with missing data were excluded from analysis

Source: AIC DUMA 2015 (computer file)

Detainees were also asked how this made them feel, knowing that police were wearing a camera. Again, detainees could select multiple responses. As shown in Table 11, the top three feelings among detainees that were prompted by police wearing cameras were *no difference to the way they felt* (50%; n=52), *more secure* (20%; n=21) and *more likely to do what they were told* (17%; n=18). To a lesser extent, detainees indicated that the cameras elicited a negative response—that being, *frustrated* (15%; n=16), *nervous* (13%; n=14) *angry* (13%; n=13) and *less likely to do what they were told* (10%; n=10). Twenty detainees (19%) reported a feeling not otherwise listed on the questionnaire, including feel anxious, annoyed, intimidated; feeling their privacy was being invaded or being more mindful of their behaviour.

Table 11: Detainees who experienced police wearing cameras at point of arrest by how this made them feel

Feeling	n	%
Nothing really—didn't make a difference (n=104)	52	50
More secure (n=104)	21	20
More likely to do what I was told (n=104)	18	17
Frustrated (n=104)	16	15
Nervous (n=104)	14	13
Angry (n=104)	13	13
Less likely to do what I was told (n=104)	10	10
Other (n=104)	20	19

Note: includes only detainees who reported being aware of police wearing camera/s at point of arrest for their current police detention

Note: cases with missing data were excluded from analysis

Source: AIC DUMA 2015 (computer file)

Perceptions of police BWCs

The DUMA questionnaire sought the views of detainees on a number of matters concerning how they perceived police BWCs. While some detainees may have had experiences involving police BWCs, others may have not. Therefore, the responses reflect the personal views of detainees at the time of interview, and cannot be indicative of factual information. Nevertheless, the responses provide baseline indicators of the perceptions of detainees regarding police BWCs.

Detainees were asked initially, whether they thought police BWCs were a good idea. As shown in Table 12, most detainees (80%; n=709) thought police BWCs were a *good idea*.

Table 12: Detainees' perceptions about whether police BWCs are a "good idea"		
Whether police BWCs are a good idea	n	%
Yes	709	80
No	108	12
Don't know	73	8
Total	890	100

Note: cases with missing data were excluded from analysis
Source: AIC DUMA 2015 (computer file)

Detainees who reported that police BWCs were a *good idea* were asked to explain why they held this view. As shown in Table 13, responses provided by detainees most commonly concerned the benefits of police BWCs in terms of *evidence* (32%; n=230). Reasons given typically centred on the recordings giving a more accurate and complete record of events than would be given just through recollection or on the basis of notes or statements.

> Because sometimes things/memories get distorted in the heat of the moment.

> See things that sometimes they (police) may have missed, that other people can't see.

Twenty-five percent of detainees (n=176) reported reasons relating to *protection*. These responses indicated the detainees believed that BWCs helped protect against harm from violence. A noteworthy feature of these responses was that while some referred to arrestees and other members of the public being protected, they most commonly referred to the value of BWCs in protecting police from violence.

> Because of how [the] victim will respond to how police are doing and saying because victims can become violent…and police protection.

> For security reasons for the police.

> For their (police) own protection, probably a deterrent for people committing crimes.

Twenty-three percent of detainees (n=165) reported reasons relating to *accountability*. This category was constructed by the researchers to identify those instances where detainees cited a benefit of BWCs in ensuring that those involved in a police interaction – most commonly the police themselves – were held accountable for their behaviours. Reponses in this category typically suggested a perception that police may use excessive force or falsely accuse arrestees of offending behaviours and that BWCs would help to guard against this.

> A lot of people get away with a lot of things…and it's not even true what they said the police charge people with things they didn't do.

> At least when you are getting arrested there is a third party video-taping. A lot of officers like to get heavy handed.

> Because it makes them (police) behave more ethically.

Nineteen percent of detainees (n=136) reported reasons relating to *fairness*. While this category potentially had some cross-overs with the accountability category, responses categorised as relating to fairness tended to emphasise the value of BWCs in achieving a fair outcome for both police and arrestees. Detainees typically referred to BWCs covering all parties and achieving fairer outcomes for those on both sides of the arrest.

Table 13: Why detainees perceived police BWCs as a "good idea" (n=654)

Reason	n	%
Evidence	230	32
Protection	176	25
Accountability	165	23
Fairness	136	19
Other	58	8
Total	765	107

Note: Detainees could specify multiple responses
Note: Includes only detainees who perceived police BWCs to be a "good idea"
Note: cases with missing data were excluded from analysis
Source: AIC DUMA 2015 (computer file)

Those detainees who reported police BWC cameras were '*not a good idea*' (n=108; 12%) were asked to expand upon this view. As shown in Table 14, detainees most commonly cited *privacy issues* (21%: n=19), and related to this, *consent* (19%; n=17). There was concern that police officers might not always inform people they interacted with that they were recording, and furthermore, some felt unease that the cameras would be used to record non-criminal behaviours that they perceived as being beyond the scope of police surveillance:

> It's an invasion of privacy—they should say that they are wearing a camera. There is signage everywhere saying that CCTV cameras are operating.
>
> Unless there is a crime in progress, no one's privacy should be invaded.
>
> You need consent before you film someone.

Despite a large proportion of detainees viewing enhanced evidentiary abilities as a benefit of police BWC cameras, some (7%; n=8) perceived the capacity for *evidence* from BWCs to be used against them as a negative consequence of being recorded. Added to this was a concern that the camera footage might not provide a neutral or objective account of events, supporting previous literature relating to 'camera view bias' where observers of the footage are more likely to be sympathetic towards the person whose point of view is represented (Taylor & Lee, *forthcoming*).

Detainees also cited issues of *fairness* (19%; n=21), particularly around concerns that police could edit or use the cameras selectively. Some detainees expressed concerns that police will choose when to have cameras on or not, potentially turning them off as they mistreat people being arrested and then turning them on to record the arrestees' behaviour once provoked. Others were concerned

footage may be edited to give a false impression of what actually occurred. In light of these issues, technological developments and protocols regarding the operation of the cameras, should be developed so as to minimise the potential for interference with the equipment. It has been suggested (Taylor, 2016; Taylor & Lee, *forthcoming*) that automaticity might be the most appropriate way to progress the technology, removing accusations of selective recording or post hoc editing. There are grounds for constraining police discretion in determining circumstances that warrant recording being stopped. As Taylor (2016: 129) has argued:

> The ability of officers to 'edit on the fly' undermines any potential benefits the cameras introduce. That is why av fundamentally oiding opportunities for redaction […] is key to implementation.

Some detainees expressed, perhaps unexpectedly, empathic views towards police, including that carrying the cameras could add to the officers' burdens and that the cameras could at times be contrary to the interests of *protection*, putting police in danger because of increased aggression by arrestees or operating difficulties. This latter point was also picked up in the literature, with empirical work by Timan (2016: 147) suggesting that '[t]he clunky interface box and rather difficult setup of clips and cables makes it not only a hassle to use, but also potentially dangerous'.

> Because you need consent before you film someone.

Nine percent of detainees (n=8) reported reasons relating to *evidence*. Despite a large proportion of detainees viewing evidence as a benefit of police BWCs, some saw the capacity for evidence from BWCs to be used against them as a negative consequence of being recorded.

> Cause they can use it in court. Don't want them to use evidence against me.

> On their behalf it is but for a citizen not really, because everything they record can be used against you.

Table 14: Why detainees perceived police BWC cameras as 'not a good idea' (n=108)

Reason	n	%
Privacy issues	23	21
Fairness issues	21	19
Consent issues	17	16
Evidence (used against detainee or others)	8	7
Protection	7	6
Other	30	28
No reason given	8	7
Total	114	104

Note: Detainees could specify multiple reasons or give no reason

Note: Includes only detainees who perceived police BWCs to "not be a good idea"
Note: cases with missing data were excluded from analysis
Source: AIC DUMA 2015 (computer file)

In a subsequent question item, detainees were asked to respond to 10 statements relating to police BWCs, using a five point Likert scale with response options ranging from strongly disagree (1) to strongly agree (5); the responses are shown in Table 15.

In terms of *citizen behaviour*, over half of the sample (58%; n=494) believed that arrestees would be less likely to use violence against police who were wearing cameras (*cf* police who were not wearing cameras). However, views on police BWCs as a crime prevention tool were less positive—40 percent (n=353) disagreed that there would be less crime on the streets if police wore cameras, while 36 percent (n=318) agreed.

In terms of *police behaviour*, the majority of detainees (73%; n=643) believed that police wearing cameras would treat people they are arresting more fairly. Similarly, the majority of detainees (69%; n=599) thought that police would be less likely to use too much force during arrests if wearing cameras.

In terms of *evidence*, most detainees (77%; n=673) held the belief that people appearing in court would get a fairer outcome if evidence from cameras worn by police were used.

In terms of *privacy/consent*, the majority of detainees (78%; n=678) believed that the public should be allowed to record anything police do while on duty. However, the majority of detainees (64%; n=560) disagreed that police should be allowed to record people without their permission.

In terms of *general views*, most detainees indicated that police BWCs were a "good idea" (79%; n=667) and that they would feel better knowing police were wearing cameras at point of arrest (70%; n=610). Approximately half of the sample (51%; n=453) thought that police wearing cameras would help make the streets safer; however it should be noted that one in four detainees (26%; n=227) neither agreed nor disagreed with this statement.

Table 15: Detainees perceptions of police BWCs

	Strongly Disagree n (%)	Disagree n (%)	Neither agree nor disagree n (%)	Agree n (%)	Strongly agree n (%)
Citizen behaviour					
People being arrested are less likely to use violence against police who are wearing cameras (n=875)	38 (4)	173 (20)	163 (19)	409 (47)	92 (11)
There will be less crime if police are wearing cameras (n=880)	56 (6)	297 (34)	209 (24)	270 (31)	48 (5)
Police behaviour					
Police wearing cameras will treat people they are arresting more fairly (n=880)	21 (2)	89 (10)	127 (14)	495 (56)	148 (17)

Police are less likely to use too much force during arrests if they are wearing cameras (n=873)	17 (2)	126 (14)	131 (15)	441 (51)	158 (18)
Evidence					
People appearing in court will get a fairer outcome if evidence from cameras worn by police is used (n=876)	16 (2)	67 (8)	120 (14)	510 (58)	163 (19)
Privacy/Consent					
The public should be allowed to record anything police do while on duty (n=875)	22(3)	86 (10)	89 (10)	462 (53)	216 (25)
Police should be allowed to record people without their permission (n=875)	219 (25)	341 (39)	122 (14)	165 (19)	28 (3)
General views					
It's a good idea if police wear cameras (n=877)	26 (3)	38 (5)	121 (14)	498 (58)	184 (21)
If I was being arrested, I would feel better knowing police were wearing cameras (n=875)	27 (3)	86 (10)	152 (17)	483 (55)	127 (15)
Police wearing cameras will help make the streets safer (n=879)	34 (4)	165 (19)	227 (26)	381 (43)	72 (8)

Note: cases with missing data were excluded from analysis
Source: AIC DUMA 2015 (computer file)

Detainees were asked, using open-ended responses, what they thought was the "best" thing about police BWCs. Detainees could specify multiple responses. As shown in Table 16, detainee responses indicated that the top 'best' things about police BWCs were *evidence* (34%; n=261), *accountability* (28%; n=212) and *fairness* (19%; n=142). These responses corresponded to a large degree with those given when detainees were asked whether or not BWCs were a 'good idea'. Responses provided by detainees in relation to *evidence* again emphasised that evidence produced through recordings would tend to be more complete and accurate, including in being able to identify behaviours from others involved in the incident that police may not have been aware of at the time.

Responses in relation to *accountability* again emphasised the accountability of all involved, but with a focus on the transparent and ethical behaviours of police. Some responses noted a perception that BWCs would keep police honest and give the courts a better understanding of what police do during incidents.

Responses in relation to *fairness* again emphasised the potential for BWCs to contribute to a fairer outcome for all involved, fairly giving both sides of the story and balancing out differences in police and arrestee accounts of the situation.

Table 16: Detainees perceptions about the "best" thing about police BWCs (n=765)		
The "best" thing about police BWCs	n	%
Evidence	261	34
Accountability	212	28
Fairness	142	19
Safety	98	13
Protection	34	4
Prevention	30	4
Other	99	13

Note: Detainees could specify multiple responses
Note: cases with missing data were excluded from analysis
Source: AIC DUMA 2015 (computer file)

Detainees were also asked what they thought was the "worst" thing about police BWCs. Again, detainees could specify multiple responses. As shown in Table 17, detainees most commonly reported that there was *no negative* in relation to police BWCs (38%; n=254). One in four detainees (25%; n=166) reported *unfairness* as the worst thing, followed by *evidence* (17%; n=116) and *privacy* (12%; n=78). Once again, *evidence* was viewed as negative because it could be used against detainees.

Responses in relation to *unfairness* typically indicated a perception that evidence from BWCs could be manipulated or misused. Some detainees suggested that police could choose when begin recording and could use this to give an impression of events that disadvantaged the arrestee. Some indicated that recordings may make non-offending behaviours look worse than they actually are.

> Can edit and cut things out. Can influence the situation and make things look worse for the offender—provoke the offender.

> Can be incriminating, or could be used out of context. For example, only showing certain parts of an event captured on camera, not the whole thing.

> Cameras put you on the spot. You have no time to think. I'm trying to collect my thoughts and the pauses are all on cameras.

Responses that saw the capacity of BWC recordings to be used in *evidence* included that they could somehow result in arrestees incriminating themselves or that they were contributing to increased crime rates through a greater number of detections and prosecutions.

> Catching all my criminal mates.

> Could catch you out or incriminate yourself somehow.

Responses in relation to *privacy* included a perception that use of BWCs invaded the privacy of law-abiding people such as bystanders to an incident and people involved in the arrest who were not necessarily acting illegally but nonetheless did not want their behaviour during the arrest to be seen. Some responses saw BWCs as being a sly way of invading privacy and also limiting the ability of those involved in arrests to talk with the police off camera.

> I don't like being on camera—you don't know where it ends up!
>
> Not much privacy in arrests. Could be doing something, not illegal but that they don't want seen.

Table 17: Detainees perceptions about the "worst" thing about police BWCs (n=674)

The "worst" thing about police BWCs	n	%
No negative	254	38
Unfairness	166	25
Evidence (used against me or others)	116	17
Privacy	78	12
Other	71	11

Note: Detainees could specify multiple responses
Note: cases with missing data were excluded from analysis
Source: AIC DUMA 2015 (computer file)

Discussion and conclusions

Police detainees provide unique perspectives on both the perceptions, and the practical application, of visual technologies with surveillance capabilities. As is clear from the results presented in the previous section, far from presenting as docile subjects of surveillance technologies, police detainee respondents expressed a variety of positions (from very positive to very negative) in relation to perspectives on CCTV and BWC. Rather than merely offering disconnected and theoretical perspectives, many detainees demonstrated that they were actively aware of surveillance technologies and responded to their presence in variety of ways, while holding considered views of how the technologies affected their behaviours and interactions with police.

CCTV

Police detainees tended to regard CCTV as an effective crime prevention measure, with the majority (69%) of respondents expressing that view, while 21 percent thought it not effective. The ability of CCTV to prevent crime relates to its capacity to deter offending. Our results counter Gill and Loveday's (2003) UK findings that offenders generally negatively evaluated CCTV's capacity to deter. There may be a range of reasons for these conflicting perceptions. Our respondents may be aware of the significant improvements in the clarity of CCTV images since earlier evaluations. We also acknowledge that our survey questions were less specific; Gill and Loveday (2003) asked whether respondents would themselves be deterred. This is an important distinction and may indicate that

while individuals feel they can evade detections themselves, they do not necessarily evaluate others' evasive capacities quite so positively. Finally, the cultural currency of CCTV's capacities – imagined or not – increasingly normalises its presence and acceptance (Monahan 2011), suggesting that our interactions with the technology have become somewhat normative. Our findings speak to the overall cultural ubiquity and general acceptance of CCTV in contemporary cities.

Our more targeted questions about which crimes respondents thought CCTV was most effective at preventing also delivered interesting results. CCTV was seen to be most effective in cases of violent crime. Interestingly there is little evidence in the literature to suggest CCTV prevents violent crime to any great extent – although it can aid in detecting after the fact for investigation and prosecution purposes (Taylor & Gill 2014). This is a complicated issue, since some studies have found that CCTV can result in police, or other capable guardians, being dispatched to incidents earlier and thus being able to intervene and prevent the escalation of violence. This makes it a difficult phenomenon to investigate empirically as the preventive effect may be a matter of degrees rather than totality. In contrast to the views of police detainees, the evidence indicates that CCTV is more effective in relation to property crimes rather than violent crimes, as well as having the greatest impact in specific locations such as car parks (Welsh & Farrington, 2008). In this sense our respondents may well simply be repeating commonly held beliefs about the effectiveness of CCTV in crime prevention.

Nonetheless, a not insignificant minority of our sample (25%) suggested CCTV was not effective in preventing any specific form of crime. They pointed to many of the limitations of CCTV that have also been identified in the literature; the placement (or misplacement) of CCTV cameras (Walsh & Farrington 2009); the ability of offenders to conceal their identity (Taylor & Gill 2014); CCTV's ability to identify and detect after the fact rather than prevent crime (Hulme, Morgan & Brown 2015); and that most violent crime occurs under the influence of drugs or alcohol and is not planned or rational (Tewksbury & Mustaine 2010).

Of the 376 detainees who knew CCTV was operating in the area when they were attempting to commit a crime in a public place, 39 percent suggested the cameras had not changed their behaviour. These respondents, according somewhat with the work of Loveday and Gill (2003), indicated that they thought they could evade the cameras, or simply that they would not get caught. Others, in what might be seen as countering rational choice theory, indicated they were simply too intoxicated to change their behaviour. A small number (3%) noted that the cameras made them anxious indicating something of a preventative effect. On a more positive note for advocates of CCTV, 23 percent of those aware of CCTV decided not to go ahead with the offence. This finding tends to reinforce the literature which suggests CCTV has a crime prevention effect (e.g. Walsh and Farrington 2009), although it was not clear whether the crime would be displaced elsewhere. This also indicates that, at least in some instances where CCTV is clearly present, potential offenders who are away of the cameras may be persuaded not to offend (Cornish & Clark 1987). While this is far from a full endorsement of the rational choice model, it does indicate that behaviour change is possible in a minority of at least partially motivated offenders.

BWC

The political economy of BWC has been obvious since its first introduction, and scholars have noted the various contexts in which this has manifested (Taylor 2016). As Palmer (2016:140) has put it:

> body-worn cameras cannot be understood in narrow instrumental terms, but must be located within the broader literature on governing police and law and order politics.

He also notes that in public discourse, expectations of what BWC can achieve have been set very high, not least an expectation that police behaviour can be improved through greater accountability. Clearly the level of public and political discourse around the cameras is likely to influence public perceptions about their utility.

BWC and police behaviour

As noted in the literature review, police body worn video is said to increase police accountability and transparency. However, many authors (Manning 2015; Goh 2016; Mateescu, Rosenblat & boyd 2016) have already pointed out, that unless cultural and regulatory changes in policing accompany the introduction of BWC, the claims of increased accountability are likely to ring hollow. As Manning (2015: no page) has noted:

> It has been proposed that miniature cameras worn on the uniform will increase accountability. This claim has no empirical basis. There has been little systematic research on the question. Police typically announce the success of innovations before they are evaluated. The police position generally is, "Why would we do it if we did not think it would improve things?"

Issues of accountability were also of concern to detainees in this study, with many respondents seeing the potential of BWCs to lead to more ethical police behaviours as an important benefit of their use. At the same time, Taylor's (2016) observations on the threats to accountability resulting from the ability of police to choose when to start and stop recordings were also of concern to detainees, with a number of respondents identifying this ability as leading to unfairness in how BWCs would be used.

BWC and offender behaviour

The present study is the first to access the views and experiences of arrestees in relation to BWC. There is very little empirical data available, yet the presumption is that the behaviour of those interacting with the police wearing a camera will be greatly improved. In relation to offender behaviour, Timan (2016:145) suggests that:

> Using rhetoric similar to defending CCTV cameras in public space […] the argument goes that the camera's presence has a preventive effect: potential wrong-doers recognize the camera and, having internalized potential consequences of their behavior being recorded, would refrain from doing harm.

BWCs have been thought capable of manifesting great powers of deterrence. The camera, it is argued, serves both a warning sign to those interacting with the police that their behaviour is being recorded and may be subject to scrutiny, while also serving as a potential witness to inform this scrutiny. To an extent these arguments were supported by detainees in this study, with more than one-third of those who saw BWCs as 'a good idea' citing their capacity to provide accurate and thorough evidence as contributing to this view. At the same time, half of those detainees who were aware that police were using cameras during their arrest stated that this awareness did not change their behaviour. While 17 percent indicated the awareness made them more likely to do what they were told, this was against 10 percent who indicated the opposite, that they would be less likely to do what they were told.

Privacy

Lippert and Newell (2016) noted only recently that 'little empirical work exists about the privacy and surveillance related implications of police-worn body cameras'. Indeed, privacy concerns are another key area of criticism about police BWC – not just the privacy of offenders, victims, and those coming into contact with the police, but also the privacy of the police officers themselves.

However, such concerns may be mitigated to some extent by clear knowledge of when police are wearing and operating cameras. The surveillant effects of the cameras are also likely to differ depending on the community surveilled. As Mateescu, Rosenblat and boyd (2016:123) note:

> While surveillance and privacy implications should not be trivialized, they must be placed within a hierarchy of other concerns. In already heavily surveilled communities, body-worn camera footage could be a boon to citizens' complaints, whereas in less-surveilled communities they might provoke new privacy concerns.

Given the nature of the sample group in the current study, it is likely that respondents are disproportionally drawn from a strata of society already heavily surveilled. Indeed, the vast majority of those in our sample were aware that police sometimes wore cameras. However, this awareness did vary significantly across jurisdictions, echoing not only differential knowledge of cameras but also differential levels of officer use and discretion. As Taylor (2016:130) argues:

> Currently, there is huge variation across jurisdictions regarding the level of discretion officers have in deciding what and when to record.

Goh also notes (2016: 134), key discretionary decisions about when and why to record are left up to the individual officer. Moreover, the majority of respondents did not know whether their arresting officers were wearing cameras (57%). Of those (n=104) that were aware their arresting officers were wearing cameras, 50 percent reported that this knowledge had no effect on them and being aware of the presence of the camera made no difference to their behaviour. This may be a product of the common place nature of recording devices in public places, including in the phones most people routinely carry. As Timan (2016:148) noted of his own research:

> the body-worn camera as a new camera in public space does not particularly stand out or 'impress'—most subjects interviewed were not shocked by the presence of the camera, pointing out they carried one themselves.

Our findings seem to echo this relatively ambivalent response to the presence of the camera. However, those who were not ambivalent were more likely to report positive than negative responses to being aware of arresting officers wearing cameras; 20 percent saying they felt more secure as a result of this awareness. In addition, 17 percent reported they were more likely to be compliant ('do what I was told') knowing the arresting officers were wearing cameras. Indeed, when asked about their general perceptions of BWC detainees overwhelmingly thought they were a 'good idea'. It seems they too accepted the seemingly self-evident narratives used to justify cameras by police managers themselves – that of accountability, protection, transparency, and the capacity of video recordings to be used as evidence.

Despite these positive or ambivalent feelings toward the cameras, a substantial proportion – indeed a greater proportion than those reporting positive feelings – reported negative feelings about arresting officers wearing cameras. Taken together, two-fifths (41%) reported feeling frustrated,

nervous or angry, while a further 10 percent said the awareness made them less likely to do what they were told. This suggests that at least in some cases the presence of BWCs may exacerbate difficult situations, potentially necessitating the additional use of police force. This raises legitimate grounds for concern given the Ariel et al.'s (2016) finding, based on an extensive set of international studies, that use of BWCs had no effect on police use of force, but led to an increased rate of assault against police. However, what cannot be discerned from this study is the extent to which these negative feelings influenced the way detainees actually behaved while being arrested. Nor can it be determined the extent to which feelings about cameras can be differentiated from the feelings that arose from the arrest incident itself or the circumstances surrounding it, including in some cases being intoxicated.

For some reporting negative feelings, there was a sense that their privacy was being invaded. Of the 12 percent who thought BWCs were not a good idea, consent and privacy issues were the most popular concerns. Privacy concerns are a strong theme in the literature on police BWC and surveillance (for example Bud 2016; Timan; 2016; Goh 2016). Issues of consent, too, have been problematised in the literature (Goh 2016). While, as we have seen, surveillance is ubiquitous in modern society, this does not mean it is universally accepted. The responses of these detainees point to the need for police and governments to better make the case for using cameras. Some detainees were worried about how and why video of them might be used. Clear guidelines might they be required 'about who has access to see, share, and delete data produced from body-worn cameras' (Goh 2016:133). This may include providing real empirical evidence for the accountability and privacy arrangements used in storing the data produced by the cameras. The failure to support assertions of the benefits and ethical management of BWCs may risk damage to police legitimacy in some contexts.

Other criticisms pointed to the capacity of officers to edit or use the cameras selectively. Some detainees expressed concerns that police will choose when to have cameras on or not, potentially turning them off as they mistreat people being arrested and then turning them on to record the arrestees' behaviour once provoked. Others were concerned footage may be edited to give a false impression of what actually occurred. The existence of these concerns suggests developments in BWC technology should include auditing capacities to identify and restore missing segments of footage, perhaps including capability that prevents recording being stopped while officers are actively on duty. This is consistent with Taylor's (2016) conclusion that police policies should require continuous recording, but with capacity to stop recording in circumstances such as a victim giving a statement, when the presence of a recording may provide the impetus for retaliation. There are grounds for constraining police discretion in determining circumstances that warrant recording being stopped. As Taylor (2016: 129) has argued:

> The ability of officers to 'edit on the fly' fundamentally undermines any potential benefits the cameras introduce. That is why avoiding opportunities for redaction […] is key to implementation.

Some detainees expressed perhaps unexpectedly empathic views towards police, including that carrying the cameras could add to the officers' burdens and that the cameras could at times put police in danger because of their difficulty in operation. This latter point was also picked up in the literature, with empirical work by Timan (2016: 147) suggesting that '[t]he clunky interface box and rather difficult setup of clips and cables makes it not only a hassle to use, but also potentially dangerous'.

The notion of the risks attached to the use of surveillance technology is important to questions about the continued development and deployment of the technology; Bud (2016) notes that BWC can be conceptualised within a risk framework. BWCs' currency can thus be seen too in its capacity to reduce the risk of complaints against the police, which is almost a universal risk indicator, and subsequently risk to the legitimacy of policing organisations themselves. Conversely, BWCs may also be seen to mitigate a range of risks to officers and public alike, as well as help compile 'risk information' (Ericson & Haggerty 1997) on individuals and groups through their surveillant capacities. As Taylor (2016: 131) asserts:

> While [the use of BWCs has] been encouraged to assist in reducing racial profiling in stop and search, they could produce other types of discrimination, such as being used to intimidate and record in certain localities and over-policed areas.

On the whole this risk discourse can be seen to underlay many of the responses of detainees. The perceptions accessed through this study suggest a general belief that BWC will reduce risk to police and to citizens who encounter police. There may also be more to this relatively complacent approach towards surveillance than immediately appears. The fact that the majority of citizens will also be carrying cameras and thus have personnel surveillance capacities may well undermine any strong arguments against police use of BWC – that is if we have cameras we can only expect the police to have similar. This notion of fairness was expressed by some of the detainees surveyed, and fairness generally emerged through the surveys as an important factor conditioning support or opposition to the use of BWCs. As Andrejevic (2005) has noted, the increase in peer monitoring and 'lateral surveillance' more generally has normalised the adoption and used of new technologies to this end. Indeed, as agents of perhaps the most watched institutions of modern society (Lee & McGovern 2014) it appears almost mundane that police themselves should be deploying video technology.

Therefore, it is perhaps only to be expected that police will continue to embrace surveillance technologies and deploy them to improve their own outcomes. However, as Goh has noted (2016: 133), without presumptions in favour of data sharing with the public who are subject to BWC, 'the reform, accountability, and legitimacy potential of body worn cameras will go unfulfilled'. Manning (2015) echoes such concerns. How will data be stored? Who will have access? How will it be analysed? It may be that the relative good will towards the introduction of BWC demonstrated by our respondents and replicated in other studies evaporates if these concerns are not clearly addressed.

In conclusion, this research indicated broad support for the use of BWCs but also some reservations. Attending to these concerns is important if the potential of BWCs to contribute positively to law enforcement, rather than exacerbating problems, is to be realised.

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