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Assessing citizen perceptions of body-worn cameras after encounters with police

Assessing
citizen
perceptions
of BWCs

689

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Abstract

Purpose – The purpose of this paper is to assess perceptions of body-worn cameras (BWCs) among citizens who had BWC-recorded police encounters, and to explore the potential for a civilizing effect on citizen behavior.

Design/methodology/approach – From June to November 2015, the authors conducted telephone interviews with 249 citizens in Spokane (WA) who had a recent BWC-recorded police encounter.

Findings – Respondents were satisfied with how they were treated during the police encounter and, overall, had positive attitudes about BWCs. However, only 28 percent of respondents were actually aware of the BWC during their own encounter. The authors also found little evidence of a civilizing effect but did document a significant, positive connection between awareness of the BWC and enhanced perceptions of procedural justice.

Research limitations/implications – Authors only interviewed citizens who had encounters with officers wearing BWCs. However, variation in BWC awareness among citizens allowed the authors to construct a proxy “non-BWC condition” for comparison.

Practical implications – The pre-conditions necessary to produce a civilizing effect among citizens are complex and difficult to achieve. The intriguing relationship between BWC awareness and procedural justice suggests the technology may have the potential to improve police legitimacy.

Originality/value – The study is among the first to explore attitudes about BWCs among those who have their police encounters recorded, and results demonstrate high levels of support among this population. Findings bode well for continued adoption of BWCs in policing.

Keywords Procedural justice, Body-worn cameras, Civilizing effect

Paper type Research paper

Introduction

Historically, the relationship between police and minority residents in many American cities has been defined by tension and anger. The National Advisory Commission on Civil Disorders (Kerner Commission, 1968, p. 157) found “deep hostility between police and ghetto communities was the primary cause” of civil unrest in the 1960s. Nearly 50 years later, police again find themselves in crisis. Already-strained relations began to fray in the summer of 2014 with the police killings of Eric Garner in New York (July) and Michael Brown in Ferguson, Missouri (August), and since then there has been a persistent spate of controversial citizen deaths at the hands of police. Public outrage over these incidents has produced civil disorder, strong anti-police sentiment, and has also led to a White House-driven effort to achieve police reform. As part of the reform effort, President Obama formed the President’s Task Force on 21st Century Policing, which issued a final report in May 2015 that includes nearly 60 recommendations for enhancing trust between police and minority communities, and for improving police accountability.

The research was funded by the Laura and John Arnold Foundation (LJAF). The opinions expressed here are those of the authors and are not necessarily those of LJAF. The authors would like to thank Jessica Herbert, Gabriel Cesar, Doug Mellom, Logan Somers, Jonathan Hernandez, Megan Parry, and Kathleen Padilla for their efforts in carrying out the citizen survey research. The authors also thank the Spokane Police Department for their cooperation, especially Mardee Ellis, Tim Schwering, and Ryan Snider.



Body-worn cameras (BWCs) are prominently featured in the President's Task Force on 21st Century Policing final report (2015) as a tool that can potentially alleviate the current crisis in policing (Hudson, 2014). There has been wide-ranging speculation over the positive impact of BWCs, and early research has produced promising results (White, 2014). However, many of the claims remain untested. For example, one perceived benefit is that citizens will embrace the technology, leading to increased police legitimacy (White, 2014). Though researchers have documented positive attitudes about BWCs among the general population (Sousa *et al.*, 2015), there have been no studies examining perceptions among those who actually have their encounters with police recorded by BWCs. The perceptions of "consumers of police services" may differ vastly from the general population, and the lack of research in this area represents a major gap in our understanding of the impact and consequences of BWCs.

Moreover, several studies have documented significant reductions in citizen complaints against police and officer use of force following deployment of BWCs, suggesting there may be a "civilizing effect" whereby the camera causes better behavior among both citizens and police officers (Ariel *et al.*, 2015; Jennings *et al.*, 2015). Though there is a body of psychological research to support the civilizing effect hypothesis (van Rompay *et al.*, 2009; Wicklund, 1975), current research on BWCs has not sufficiently explored the issue.

The current study seeks to fill these research gaps. From June to November 2015, the authors' research team conducted phone interviews with 249 citizens in Spokane, Washington, who had a BWC-recorded police encounter within the previous one to three weeks. Citizens were queried about their satisfaction with the encounter and its outcome, their overall attitudes about BWCs, their awareness of the BWC during the interaction, and the impact, if any, of the BWC on their behavior (i.e. civilizing effect). They were also asked to assess the encounter with regard to procedural justice. The authors examine two core research questions:

RQ1. How do citizens feel about being recorded by BWCs during their encounters with police?

RQ2. Is there evidence supporting a BWC-generated civilizing effect on citizen behavior?

Also, given variation in citizens' awareness of the BWC during the encounter, the authors were able to construct a proxy "non-BWC condition" (i.e. citizen was unaware of the BWC) and then explore a third research question:

RQ3. Does citizens' awareness of the BWC influence their perceptions of procedural justice during the encounter?

Literature review

BWCs are small audio/video recording devices that allow officers to capture, in real-time, encounters with citizens (Sousa *et al.*, 2015). Several law enforcement agencies in the UK began experimenting with the technology as early as 2005 (Goodall, 2007; ODS Consulting, 2011), and a handful of North American law enforcement agencies piloted BWCs from 2010 to 2012 (Oakland, Phoenix, and Victoria, Canada). However, interest in BWCs began to grow significantly in 2013-2014[1].

At about the same time BWCs were gaining traction, several high profile incidents sparked a national debate over police use of force and accountability. In Summer 2014, the deaths of Eric Garner and Michael Brown at the hands of the police laid bare the longstanding undercurrent of racial tension in American policing (White and Fradella, 2016). Since those tragic incidents, there has been a continuing cascade of racially charged police killings of citizens that have led to public protest, civil disorder, and started a national movement demanding police reform (i.e. <http://blacklivesmatter.com/>).

These events have also generated widespread interest in BWCs across many sectors including the federal government, police leadership organizations, line officers (Gaub *et al.*, 2016; Jennings *et al.*, 2014), civil rights groups (the American Civil Liberties Union; Stanley, 2015), and citizens (Sousa *et al.*, 2015). As a consequence, the technology has been adopted rapidly in American law enforcement (Reaves, 2015).

The perceived benefits and limitations of BWCs[2]

Advocates claim BWCs can provide benefits such as increased transparency, reduced citizen complaints and officer use of force, quicker resolution of complaints/lawsuits, and better quality evidence for prosecution (White, 2014). Several studies have documented BWCs' evidentiary value. Morrow *et al.* (2016) reported that BWCs led to enhanced criminal justice outcomes for domestic violence cases, and a study in Essex, England reported similar findings (Owens *et al.*, 2014). One of the most critical questions surrounding BWCs involves the technology's impact on citizen complaints against police and officer use of force. An evaluation of BWCs in the Rialto (CA) Police Department documented a nearly 90 percent drop in citizen complaints against police and a 60 percent drop in use of force (Ariel *et al.*, 2015). Significant reductions in use of force and complaints against officers have also been reported in Mesa, AZ (Ready and Young, 2015), Orlando, FL (Jennings *et al.*, 2015), and Phoenix, AZ (Katz *et al.*, 2015). However, several recent studies have produced mixed results, suggesting that rates of force and complaints may not decline (Grossmith *et al.*, 2015) and could even increase under certain circumstances. Ariel *et al.* (2016a, b) found that use of force was tied to officer adherence to administrative policy regarding activation and citizen advisement: if officers followed policy, force decreased; if officers did not follow policy on activation and advisement, use of force actually increased (see also Young and Ready, in press).

Advocates have suggested that reductions in force and complaints are tied to a BWC-generated civilizing effect. The potential for a civilizing effect has a strong theoretical foundation as both social influence theory and social impact theory posit normative behavior is more likely when people are aware they are being directly observed (Ernest-Jones *et al.*, 2011; Munger and Harris, 1989; Wicklund, 1975). Research also suggests vicarious observation methods, such as cameras, may produce the same effect (Ratcliffe *et al.*, 2009; Wahl *et al.*, 2010). However, the extent to which declines in complaints and use of force are caused by a BWC-generated civilizing effect remains unclear, and alternative explanations have not been ruled out. For example, citizen complaints may decline after BWC deployment because citizens are less likely to file frivolous or false complaints.

Advocates also claim BWCs can improve police legitimacy. Police legitimacy, defined as "a psychological property of an authority, institution, or social arrangement that leads those connected to it to believe that it is appropriate, proper, and just" (Tyler, 1990, p. 375), has become an increasingly important outcome because of how it shapes citizen attitudes and behavior. A robust body of literature has linked enhanced police legitimacy to higher levels of citizen compliance with police commands during an encounter, cooperation with police authority, and obedience to the law (Hinds, 2009; Sunshine and Tyler, 2003; Tyler and Huo, 2002). Though there are several mechanisms to achieve police legitimacy, procedural justice is the most empirically tested and supported (Mazerolle *et al.*, 2012). Procedural justice involves citizens' perceptions of how they are treated by police, and it includes four components: citizen participation, fairness and neutrality, dignity and respect, and trustworthy motives (Goodman-Delahunty, 2010). Though advocates claim BWCs can enhance citizens' perceptions of procedural justice and police legitimacy, the claim remains largely untested.

Critics of the technology have raised numerous concerns about BWCs. The resource and logistical issues surrounding adoption of BWCs are considerable. Costs associated with the

technology can run into the millions annually, most notably for data storage and program management (Bakst and Foley, 2015; Miller *et al.*, 2014). Several studies have highlighted the importance of clear, enforceable guidelines governing BWC use. The Mesa Police Department (2013) reported BWC activations declined by 42 percent after the adoption of a more discretionary policy. Hedberg *et al.* (2017) reported that Phoenix police officers engaged in low activation compliance, as officers failed to turn on their BWC in more than two-thirds of encounters where activation was required by policy. Critics have also pointed to a complex range of issues involving citizen privacy, such as access to public records and the recording of vulnerable populations (e.g. children; Harris, 2010; Stanley, 2015).

Notably, there have been virtually no efforts to examine attitudes about BWCs among those who are most affected by the technology: the citizens who have their encounters with police recorded. Their views on BWCs are critically important, and the dearth of research in this area is troubling. Moreover, research on this population could explore the potential for a BWC-generated civilizing effect, as well as the impact of the technology on perceptions of procedural justice. The current study represents one of the first systematic efforts to assess attitudes about BWCs among this population.

Data and design

The current study is part of a larger project examining the impact and consequences of BWCs in the Spokane (WA) Police Department (SPD). As part of this study, approximately half of patrol officers were randomly selected to wear BWCs beginning in May 2015 ($n = 80$). The authors and SPD leadership devised a process for conducting phone interviews with Spokane residents following their encounters with BWC officers. SPD policy requires officers to activate the BWC at the beginning of any situation considered a formal law enforcement activity (i.e. officer shall activate), though officers are not required to notify citizens of the recording. Every week from June to November 2015, the authors randomly selected five BWC-wearing officers and sent those names to SPD[3]. Records Unit staff then produced a list of names and phone numbers for all citizens who had BWC-recorded encounters with the five officers during the previous seven days, and sent that list back to the authors' research team to conduct the phone interviews. During the six-month study period, each BWC officer was randomly selected at least once, and 55 were selected in multiple weeks. The sampling distribution is as follows: 25 officers were selected once; 27 officers were selected twice; 21 officers were selected three times; six officers were selected four times; and 1 officer was selected five times. There is no indication that the officers selected multiple times differed in any way from officers only selected once. The number of citizens recorded per week for selected officers ranged from 0 to 65, with a mean of 11.3 (standard deviation = 13.44).

The authors' research team completed 298 interviews with citizens during the study period. The response rate was calculated as the number of completed surveys ($n = 298$) divided by the sum of the number of completed surveys, refusals, and no contacts ($n = 1,074$). The overall response rate was 27.8 percent. The response rate does not include cases where there was no possibility of conducting a survey, such as with disconnected/wrong numbers. The response rate is low but it is consistent with other recent phone-based studies of citizens who have interacted with police (25.0 percent for Malm *et al.*, 2016; 34.4 percent for Rosenbaum *et al.*, 2015).

The citizen perception survey

The citizen survey used in the current study is a modified version of an instrument designed for the Phoenix BWC project (Katz *et al.*, 2015). The citizen perception survey includes more than 40 questions across a range of areas: citizen demographics, citizen satisfaction with the

encounter, general perceptions of BWCs, citizen awareness of the BWC during the encounter, citizen attitudes about being recorded, and how the BWC may have influenced the citizen's behavior during the encounter (civilizing effect). The survey also captured indicators of the four core components of procedural justice: citizen participation or voice, fairness/neutrality, dignity/respect, and trustworthy motives (Mazerolle *et al.*, 2012; Tyler, 1990). Response options for most questions were on a Likert scale (strongly agree, agree, disagree, strongly disagree, do not know, and refused).

The current study was approved by Arizona State University's Institutional Review Board. Citizens who were under the age of 18 and incarcerated individuals were excluded from the study. Interviewers were not aware of the nature of the citizen's encounter with the Spokane police, and if a citizen had questions about the encounter or its outcome, the interviewer advised the citizen to contact the SPD. The authors' research team administered the survey using Qualtrics, and each valid phone number was dialed a maximum of four times. Surveys took anywhere from 10 to 30 minutes to complete, depending on the level of detail provided by the citizen. At the beginning of each phone survey, respondents were asked whether they had recently had an encounter with a Spokane police officer. Of the 298 respondents, 249 (83.8 percent) responded "yes" to this question. The remaining respondents were not directly involved in the encounter (e.g. they were a roommate or spouse of the direct participant). Interviewers completed the non-incident-related portions of the survey with "non-direct respondents;" however, those interviews were set aside for the current study, resulting in a final sample of 249 citizens.

Analysis

The authors employ both descriptive and multivariate analyses to explore citizen attitudes regarding BWCs. The authors first examine citizens' general attitudes about BWCs, as well as their perceptions of how they were treated (procedural justice). The authors then explore citizens' awareness of the presence of a BWC during their police encounter, how the BWC may have affected their behavior (civilizing effect), and how the presence of the BWC made them feel during the encounter. Notably, citizen awareness of the BWC varied considerably, and this variation created an opportunity to conduct an exploratory analysis of the relationship between BWC awareness and perceptions of procedural justice. In effect, citizens' lack of awareness of the BWC allowed the authors to create a proxy "non-BWC condition." The authors then used ordinary least squares (OLS) regression to investigate the impact of BWC awareness on citizens' perceptions of procedural justice in the encounter with the officer (i.e. comparing those who were aware of the BWC to those who were not). The dependent variable is operationalized as a summative scale of four items that capture each of the requisite dimensions of procedural justice: the officer listened carefully to what you had to say (voice); the officer treated you fairly (neutrality/fairness); the officer treated you with respect (dignity/respect); and the officer was honest with you (trustworthy motives). Each of the four items is rated on a four point scale: 4 = strongly agree; 3 = agree; 2 = disagree; 1 = strongly disagree. The dependent variable for each respondent is the sum of the four items.

Results

Table I shows demographics for residents of the city of Spokane, as well as the 249 respondents[4]. The study sample generally approximates the city population. The study sample is evenly split among men (53.5 percent) and women (46.5 percent). Most respondents were white (86.4 percent), and 7.5 percent were Hispanic. Respondents tended to be older, as nearly 70 percent were 31 or older (median = 37.0). Just 8.3 percent did not graduate high school, and two-thirds had attended at least some college. More than half worked full or part time. Table I also separates the study sample

	Spokane population (210,142) ^a Percent (n)	All survey participants (n = 249) Percent (n)	Survey participants: not aware of BWC (n = 176) Percent (n)	Survey participants: aware of BWC (n = 70) Percent (n)
<i>Sex</i>				
Female	51.4 (108,024)	46.5 (114)	50.3 (88)	37.7 (26)
Male	48.6 (102,118)	53.5 (131)	49.7 (87)	62.3 (43)
<i>Race</i>				
African American	2.7 (5,719)	4.3 (10)	6.0 (10)	0.0 (0)
Asian	2.9 (6,033)	1.7 (4)	1.8 (3)	1.5 (1)
Native American	1.7 (3,607)	6.8 (16)	7.2 (12)	6.0 (4)
White	86.8 (182,397)	86.4 (203)	84.4 (141)	91.0 (61)
Other	6.0 (12,386)	0.9 (2)	0.6 (1)	1.5 (1)
<i>Ethnicity</i>				
Hispanic	5.7 (11,899)	7.5 (16)	6.5 (10)	10.2 (6)
<i>Age</i>				
Median	35.4	37.0	37.0	35.0
<i>Education level</i>				
Some high school	9.1 (14,981) ^d	8.3 (20)	7.0 (12)	11.8 (8)
High school diploma/GED	25.8 (42,271)	23.2 (56)	19.8 (34)	30.9 (21)
Some college	39.2 (64,260)	35.3 (85)	38.4 (66)	27.9 (19)
College degree	25.7 (42,234)	33.2 (80)	34.9 (60)	29.4 (20)
<i>Employment status</i>				
Working full time	50.1 (70,066)	40.1 (97)	36.4 (63)	48.5 (33)
Working part time	23.1 (32,386)	13.6 (33)	15.0 (26)	10.3 (7)
Not working	26.7 (32,262) ^b	32.2 (78)	32.9 (57)	30.9 (21)
Not working/student	–	5.4 (13)	6.4 (11)	2.9 (2)
Retired	–	8.7 (21)	9.2 (16)	7.4 (5)
<i>Marital status</i>				
Single (never married)	34.5 (60,329) ^c	38.3 (93)	36.8 (64)	42.6 (29)
Married/cohabitating	43.6 (76,242)	37.9 (92)	38.5 (67)	35.3 (24)
Divorce/separated/widow	21.9 (38,296)	23.9 (58)	24.7 (43)	22.1 (15)

Notes: ^aCity of Spokane data were drawn from <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>. ^bThe Census data provide a “not working” category; these do not separate into not working, not working/student, and retired categories. ^cPercentages for marital status in the Spokane population are out of the total population 15 years of age and over (174,868). ^dPercentages for education status in the Spokane population are out of the total population 18 years of age and over (163,889)

Table I.
Demographics of
Spokane citizens and
survey participants

into two groups: those who were aware of the BWC during their encounter and those who were not. Notably, only 70 citizens were aware of the BWC’s presence (28.5 percent). There are some differences among citizens who were aware and unaware of the camera (sex, education), but none of the differences reached statistical significance[5].

Attitudes about BWCs

Table II shows citizen attitudes about BWCs, overall and by BWC awareness. Attitudes are largely positive. For example, 85.9 percent agreed/strongly agreed that all Spokane police officers should wear BWCs. Three-quarters (77.0 percent) agreed/strongly agreed that the benefits of BWCs outweigh the costs. A majority of respondents reported agreement with a BWC-generated civilizing effect: BWCs will make officers act more professionally

Table II.
Citizen attitudes
about BWCs

	All participants (<i>n</i> = 249) ^a	Participants: not aware of BWC (<i>n</i> = 176)	Participants: aware of BWC (<i>n</i> = 70)
Video cameras should be worn by all officers in Spokane PD	85.9	84.1	91.4
Using video cameras will make officers act more professionally	76.6	79.5	70.0
The use of video cameras will hurt police-community relations	14.6	14.3	15.7
Citizens will be more cooperative when they become aware that an officer is wearing a video camera	70.2	70.5	70.0
Police will be more respectful to citizens when wearing video cameras	78.9	80.0	77.1
The use of video cameras will reduce complaints against officers	65.7	64.2	70.0
The benefits of police using video cameras outweigh the costs	77.0	76.1	80.0

Note: ^aIndicates percent agree/strongly agree

(76.6 percent) and citizens will become more cooperative when aware of the BWC (70.2 percent). There are some minor differences in general attitudes among citizens who were aware and unaware of the BWC, but none of the differences reached statistical significance.

Citizen satisfaction with police

Table III shows indicators of citizen satisfaction and procedural justice, both overall and by BWC awareness. Respondents were satisfied with how they were treated during the encounter, as well as how the situation was resolved. Overall, more than 80 percent agreed/strongly agreed that the officer acted professionally, and 72.9 percent indicated they believed the officer cared about their well-being. Nearly two-thirds (63.6 percent) were satisfied with how the situation was resolved. For the entire sample, respondent agreement on the procedural justice aspects of the encounter exceeded 80 percent for three of the four items that make up the construct: officer treated you with respect (81.9 percent), officer treated you fairly (81.6 percent), officer was honest (83.5 percent), and the officer listened carefully to what you had to say (74.5 percent). This is also reflected in the mean procedural justice score: 12.6 on a summative scale ranging from 4 to 16. There are some notable differences in procedural justice views by BWC awareness, with respondents who were aware of the BWC reporting higher levels of procedural justice. Only one of the

	All participants (<i>n</i> = 249) ^a	Participants: not aware of BWC (<i>n</i> = 176)	Participants: aware of BWC (<i>n</i> = 70)
The officer acted professionally	82.6	81.3	85.7
The officer cared about your well-being	72.9	68.8	82.9
The officer threatened to use or used force against you	8.9	10.2	5.7
You are satisfied with how you were treated by the police	74.8	71.0	84.1
You are satisfied with how your situation was resolved	63.6	61.4	70.0
The police officer you spoke with treated you with respect	81.9	78.2	91.2
The officer treated you fairly ^b	81.6	77.6	91.3
The officer was honest with you	83.5	81.5	88.1
The officer listened carefully to what you had to say	74.5	70.6	85.3
Procedural Justice Scale (mean/standard deviation) ^b	12.6 (3.3)	12.3 (3.5)	13.4 (2.8)

Notes: ^aIndicates percent agree/strongly agree; ^bindicates statistically significant group difference ($p < 0.05$)

Table III.
Citizen satisfaction
with police

indicators reaches statistical significance (officer treated you fairly, 77.6 vs 91.3 percent), but the summative procedural justice score is significantly higher among those who were aware of the BWC (13.4 vs 12.3; $p < 0.05$ using an independent samples t -test).

Awareness and impact of the BWC

Recall that only 70 citizens knew they were recorded on a BWC. The authors captured specific attitudes about the BWC at the encounter among those 70 citizens, with a specific focus on the civilizing effect (Table IV). Only 7 respondents (10 percent) agreed/strongly agreed that they were more cooperative during the encounter because of the BWC. Alternatively, citizens who were aware of the BWC reported mostly positive views about its presence during the encounter. From 59 to 61 percent agreed/strongly agreed they felt safer because of the BWC, and the BWC made them feel more confident in the police.

Effect of BWC awareness on procedural justice

The authors further examined the BWC awareness/enhanced procedural justice link using OLS regression. The model also includes controls for available demographic variables[6]. Table V shows citizens who were aware of the BWC during the encounter reported significantly higher assessments of procedural justice than citizens who were not aware of the BWC. This is an important finding suggesting a connection between the use of BWCs and citizens' perceptions of how they are treated by police. Table V also shows white respondents reported higher levels of procedural justice than minority citizens[7].

Discussion

BWCs are at the center of the current crisis in policing. BWCs have been touted as a tool that can provide police accountability, increase transparency and police legitimacy, offer valuable evidence, and through a hypothesized civilizing effect, improve encounters between officers and citizens (White, 2014). Though a growing body of research has begun to test the proposed benefits of BWCs, there have been virtually no efforts to examine attitudes about BWCs among those who are most affected by the technology: the citizens who have their encounters with police recorded. This study represents one of the first systematic efforts to assess attitudes about BWCs among this population, and the findings offer a number of important insights worthy of additional discussion.

Citizens' overall perceptions of BWCs and their police encounter

Results from interviews with nearly 250 residents indicate perceptions of BWCs are quite positive. Nearly 90 percent of respondents agreed all Spokane police officers should wear BWCs. These findings provide an important perspective on BWCs because they represent the views of individuals who have directly interacted with the police. It is notable that perceptions of BWCs among this important group are consistent with the positive views of the larger population (Sousa *et al.*, 2015), advocacy groups (Stanley, 2015),

Table IV.
Awareness and
impact of the BWC
on the encounter

Impact of the BWC ($n = 70$)	Percent agree/strongly agree
You felt safer knowing the police were wearing video cameras	61.4 (43)
The video camera made you feel uncomfortable	11.4 (8)
You were more cooperative because the camera was on	10.0 (7)
You were more cautious about what you said or did in front of the officer	10.0 (7)
You felt angry or annoyed that you were being recorded	10.0 (7)
The video camera made you feel more confident in the police	58.6 (41)

Variables ^a	β	Procedural justice SE	<i>t</i> -Ratio
BWC knowledge	1.13*	0.51	2.19
Sex (male)	-0.22	0.47	-0.47
Race (white)	1.41*	0.65	2.18
<i>Age</i>			
26-30	-0.58	0.84	-0.69
31-40	-0.80	0.74	-1.08
41+	-0.04	0.70	-0.06
<i>Education</i>			
High school diploma	-0.91	0.97	-0.94
Some college	0.53	0.94	0.57
College degree or higher	0.19	0.95	0.20
<i>Work</i>			
Working part time	0.09	0.76	0.12
Not working	-0.80	0.58	-1.38
Full time student	0.52	1.01	0.51
Retired	-0.55	0.94	-0.59
<i>Marital status</i>			
Married/Cohabiting	1.11	0.59	1.90
Divorced/Separated/Widowed	0.79	0.66	1.20
Constant	11.24***	1.27	8.83
<i>F</i> -test	1.83*		
<i>R</i> ²	0.12		
Adjusted <i>R</i> ²	0.06		

Table V.
OLS regression
predicting procedural
justice

Notes: $n = 210$. ^aReference categories for the predictor variables are as follows: age (18-25); education (Some high school); work (Working full time); marital status (never married). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

police experts and leaders (President's Task Force on 21st Century Policing, 2015; Miller *et al.*, 2014), and police officers themselves (Gaub *et al.*, 2016; Jennings *et al.*, 2014). The near-universal support suggests that, although the technology comes with considerable challenges, the diffusion of BWCs in law enforcement is likely to continue widely and rapidly over the next few years.

The current study also clearly demonstrates citizens had positive views about their encounter with a Spokane police officer. The authors asked questions related to the four dimensions of procedural justice, and the vast majority of respondents agreed they were treated in a procedurally just manner (from 75 to 84 percent agreement on each procedural justice dimension). Nearly two-thirds were satisfied with how the encounter was resolved. The findings reflect positively on the SPD and their relationship with the community.

The potential for a civilizing effect among citizens

The potential for a BWC-generated civilizing effect for citizens rests on two important pre-conditions. First, the citizen must be aware of the camera's presence during the encounter. Though citizens may recognize a BWC on the officer, the most common method for achieving citizen awareness is advisement by the officer. Second, the citizen must be able to process the implications of being recorded, and then make a rational decision to change his or her behavior as a consequence of the BWC. The establishment of these pre-conditions for a civilizing effect on citizens is, by no means, easy to accomplish.

Police departments vary significantly on advisement of citizens about BWCs during an encounter, and much of this variation can be explained by state law. Most states have a “one-party” consent law that does not require citizen advisement. And in some “two-party” consent states, legislators have created an exemption for BWCs that lifts the requirement for citizen consent before recording. Though advocacy groups (Stanley, 2015) and some police leadership organizations recommend citizen notification (Miller *et al.*, 2014), many departments, including the SPD, do not require officers to advise citizens of the BWC. The decision to not require citizen advisement has clear implications for the hypothesized civilizing effect, as one of the critical pre-conditions is not met.

The second pre-condition is the citizen is thinking rationally during the encounter, and once aware of the BWC, he or she makes a choice to alter behavior for the better. Research has shown for decades that police frequently deal with citizens who are upset, traumatized, angry, under the influence of drugs or alcohol, and mentally ill and in crisis (Borum *et al.*, 1998; Kaminski *et al.*, 2004). All of the aforementioned issues can cloud someone’s judgment and reduce the likelihood he or she will be able to rationally understand the implications of being recorded; and make the decision to change one’s behavior. Moreover, citizens who are angry, upset, intoxicated, etc., may receive the BWC advisement from the officer, but they may not actually hear and process the information. And finally, citizens may hear the BWC advisement and simply not care because they are angry, upset, or traumatized.

The results from the current study highlight the challenges with achieving the pre-conditions necessary for a BWC-generated civilizing effect on citizens. In Spokane, the potential for a civilizing effect was effectively neutralized in three-quarters of the encounters with citizens in the current study because only 70 respondents (28.5 percent) were aware of the BWC’s presence (i.e. pre-condition one was not met). Moreover, only seven citizens reported they were more cooperative with police because of the BWC. Based on this self-report measure, the hypothesized civilizing effect for citizens occurred in less than 3 percent of the encounters captured by the current study (7 of 249). The results raise questions about the potential for a widespread civilizing effect among citizens, given variation in police department policies on the issue of citizen advisement of the BWC, and the complicated emotions and conditions experienced by citizens who interact with the police. In short, the required pre-conditions for a BWC-generated civilizing effect on citizens are complex and difficult to achieve.

The potential for BWCs to influence perceptions of procedural justice

Variation in citizen awareness of the BWC allowed the authors to construct a proxy “non-BWC condition” and investigate the relationship between BWC awareness and perceptions of procedural justice. The results indicate a significant, positive relationship. That is, citizens who were aware of the BWC rated their encounters with police as significantly more “procedurally just” than those who were not aware of the BWC. The authors acknowledge that this finding should be interpreted with caution, given the study response rate, the preliminary nature of the analysis, and the modest explanatory power of the model ($r^2 = 0.12$). Nevertheless, the finding provides an early, important indicator of the potential for BWCs to benefit police-community relations far beyond a hypothesized civilizing effect.

More specifically, police researchers, scholars, and leaders have increasingly focused on legitimacy as an important outcome for police (President’s Task Force on 21st Century Policing, 2015). Research has consistently highlighted the importance of procedural justice as a mechanism for generating enhanced police legitimacy (Casper *et al.*, 1988; Mazerolle *et al.*, 2012; Sunshine and Tyler, 2003). The results from the current study suggest the possibility BWCs may be employed by police as a mechanism for enhancing citizens’ perceptions of procedural

justice, and thereby offering a new pathway for achieving police legitimacy. The nature of the connection between BWC awareness and enhanced procedural justice remains unclear. When a citizen becomes aware of the BWC, perhaps he or she recognizes the technology as an attempt by the police to be transparent and accountable. The citizen may also see the BWC as a show of good faith by the police, or perhaps as an effort to respond to the larger national dialogue over strained police-community relations. Regardless, the BWC/procedural justice connection is an intriguing finding that requires additional exploration by researchers, especially since some police departments are now rethinking adoption of the technology because of the costs (www.indystar.com/videos/news/2016/07/13/87060020/). If the mere presence of a BWC can positively shape citizens' perceptions of how they are treated by police, the enhanced procedural justice benefit could represent a potential "game-changer" to the cost-benefit equation.

The current study has several limitations. First, the authors recognize that retrospective self-reports of behavior are sometimes biased or factually inaccurate due to the limitations of human memory (Andersen and Adamsen, 2001; Stone *et al.*, 1998). Second, the results may be affected by bias resulting from the low citizen response rate (27.8 percent), though our response rate is consistent with other recent studies using a similar methodology (Malm *et al.*, 2016; Rosenbaum *et al.*, 2015). Potential differences between those who completed the survey and those who did not remain unknown, as the authors had no information on citizens who chose not to respond. Third, the authors were not able to include officer-related information or data detailing the nature of the police citizen contact. Fourth, the study did not include a true "non-BWC condition" that would compare perceptions among citizen who interacted with both BWC and non-BWC officers. Instead, the authors used a proxy measure based on variation in citizen awareness of the BWC. Last, BWC awareness was a statistically significant predictor of procedural justice views, but the overall explanatory power of the model is weak. Future research should capture perceptions of citizens who interact with both BWC and non-BWC officers (to allow for comparison), and should also include both officer and contact-related information in the analysis. Researchers should also consider the impact of activation compliance among officers, as failure to record could influence citizen perceptions of the technology.

Despite these limitations, the current study represents one of the first systematic examinations of attitudes toward BWCs among those who actually had their encounters with police recorded. The results presented here reinforce the widespread support for BWCs across numerous sectors and strongly suggest that this support extends to citizens who are most affected by the technology. This theme bodes well for the continued, rapid dissemination of BWCs in law enforcement. The current study also provides insights into the potential for a civilizing effect on citizens and highlights the challenging pre-conditions that must be met for such an effect to be realized. Last, the authors found an intriguing connection between citizen awareness of a BWC at the encounter and enhanced perceptions of procedural justice, providing a preliminary piece of evidence that BWCs may be able to deliver on the claim the technology can enhance police legitimacy.

Notes

1. For example, in August 2013, a federal judge included the technology as a remedy in the ruling against the New York Police Department's Stop, Question, Frisk (SQF) program (*Floyd, et al. v. City of New York*).
2. For a full discussion of the benefits and limitations of BWCs, see White (2014) and the National Body-Worn Camera Toolkit (www.bja.gov/bwc/).

3. The authors sought to also conduct interviews of citizens who interacted with non-BWC officers. However, the SPD was unable to provide the resources required to add this study component. The 80 officers represent approximately 55 percent of the patrol force, and there were no statistically significant differences in demographics or officer performance indicators among BWC and non-BWC officers. The authors selected five officers per week to ensure that each officer would be selected at least once, and to provide a manageable number of citizen contacts each week from which to survey.
4. Note that not all respondents answered each question. Thus, the N for a variable may be less than 249.
5. Per our agreement with SPD, the authors were not able to link citizen survey information to specific officers. As a result, we have no officer-related variables in any of the analysis. Also, human subject protections and our agreement with SPD prohibited interviewers from knowing specific details about the nature of each citizen's contact with an SPD officer (e.g. type of call).
6. The model presented in Table V does not include respondent ethnicity because the variable has a substantial number of missing values, and its inclusion in the OLS regression reduced the N significantly. The authors did run the analyses with ethnicity included, and the variable was not statistically significant. Moreover, it did not alter model fit. For the sake of parsimony (and to increase sample size), Table V shows the model without respondent ethnicity.
7. The authors also created a categorical version of the procedural justice variable (low, medium, and high) and ran a multinomial logistic regression. With low procedural justice as the reference category, the results were very similar to the OLS results presented here (i.e. BWC awareness was a significant predictor of enhanced procedural justice).

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