7-2-2018

Understanding police officer resistance to body-worn cameras

Jessica Huff

Charles M. Katz

Vincent J. Webb

Understanding police officer resistance to body-worn cameras

Jessica Huff, Charles M. Katz, and Vincent J. Webb

Center for Violence Prevention and Community Safety, School of Criminology and Criminal Justice, Arizona State University, Phoenix, Arizona, USA

Abstract

Purpose – Body-worn cameras (BWCs) have been adopted in police agencies across the USA in efforts to increase police transparency and accountability. This widespread implementation has occurred despite some notable resistance to BWCs from police officers in some jurisdictions. This resistance poses a threat to the appropriate implementation of this technology and adherence to BWC policies. The purpose of this paper is to examine factors that could explain variation in officer receptivity to BWCs.

Design/methodology/approach – The authors assess differences between officers who volunteered to wear a BWC and officers who resisted wearing a BWC as part of a larger randomized controlled trial of BWCs in the Phoenix Police Department. The authors specifically examine whether officer educational attainment, prior use of a BWC, attitudes toward BWCs, perceptions of organizational justice, support for procedural justice, noble cause beliefs, and official measures of officer activity predict receptivity to BWCs among 125 officers using binary logistic regression.

Findings – The findings indicate limited differences between BWC volunteers and resistors. Volunteers did have higher levels of educational attainment and were more likely to agree that BWCs improve citizen behaviors, relative to their resistant counterparts. Interestingly, there were no differences in perceptions of organizational justice, self-initiated activities, use of force, or citizen complaints between these groups.

Originality/value – Though a growing body of research has examined the impact of BWCs on officer use of force and citizen complaints, less research has examined officer attitudes toward the adoption of this technology. Extant research in this area largely focusses on general perceptions of BWCs, as opposed to officer characteristics that could predict receptivity to BWCs. This paper addresses this limitation in the research.

Keywords

Policing, Body-worn cameras, Officer receptivity, Officer resistance, Police technology

In 2014, following the police-involved deaths of Eric Garner in New York (July 2014), Michael Brown in Ferguson (August 2014), Laquan McDonald in Chicago (October 2014) and Tamir Rice in Cleveland (November 2014), citizens and

policymakers began to place broad and sustained pressure on local police agencies to increase transparency and accountability through the use of police body-worn cameras (BWCs). Shortly thereafter, federal courts began to require police agencies, as a consequence of reform agreements, to adopt and implement BWC programs. For example, by 2017, agencies including the Ferguson Police Department, Seattle Police Department, New York City Police Department and the Maricopa County Sheriff's Office had been mandated by federal decrees to use BWCs. In addition, in 2015, then-President Obama incentivized the police adoption of BWCs through the creation of a multi-year program that awarded more than $50million to over 260 state, city, county and tribal law enforcement agencies that have adopted or enhanced their BWC programs (resulting in the deployment of more than 52,000 BWCs across the USA; United States Department of Justice, 2015, 2016).

Police officers, however, have occasionally pushed back on their agency's adoption of BWCs through their unions. For example, in California, police officers voiced concerns about their rights to privacy (Bruinius, 2016). In Boston, officers expressed apprehension about the negative impact BWCs have on officer safety (Bruinius, 2016), ultimately resulting in their union filing for an injunction in federal court. In Jacksonville (FL) and Seattle (WA), police unions resisted the implementation of BWC programs by asserting worker rights, arguing that mandating BWCs violates the conditions of collective bargaining (Chimurenga, 2017). In Broward County (FL), officers rejected the idea of deploying BWCs because they perceived their only purpose was to "burn a cop" (Bryan, 2015) and in El Paso, the police claimed that the department was in greater need of additional police officers, new patrol cars and updated radios, rather than BWCs (Perez, 2017). To counteract some of these concerns, the Las Vegas Police Department offers a financial stipend to officers who wear a BWC and the NYPD is close to doing so as well.

Despite police officer concerns relating to the adoption of BWC technology, a robust body of literature has examined the effectiveness of BWCs over a relatively short period of time. Many of these studies have demonstrated that BWCs significantly reduce citizen complaints against the police (by 12–93 percent) (Ariel et al., 2015, 2017; Hedberg et al., 2017; Jennings et al., 2015; Katz et al., 2014) and significantly reduce police use of force (by 26–59 percent) (Ariel et al., 2015; Braga et al., 2017; Jennings et al., 2014; White et al., 2017), although there have been some well-noted exceptions where BWCs have been found to have a modest effect (Jennings et al., 2017), no effect (Yokum et al., 2017) and a backfire effect (Ariel et al., 2016).

Some have speculated that the variation in outcomes associated with police agency adoption of BWCs is related to officer compliance with BWC policies. Little research has examined BWC compliance, and the research that has been conducted has rarely examined whether observed changes were the result of BWC assignment or their actual use in the field. For example, in Phoenix, researchers reported that officers only activated their BWCs 30 percent of the time when they were mandated to do so

(Katz et al., 2014); and in Anaheim (CA), evaluators reported fairly low, yet wide variation in compliance with BWC activation policy. In particular, they found that some police officers activated their BWC less than 2 percent of the time and others activated their BWCs about 65 percent of the time (McClure et al., 2017). Other researchers have reported that compliance rates, on average, have started off relatively high (about 82 percent), but deteriorated to modest levels (about 55 percent) within the first year of implementation (Headley et al., 2017). Still other agencies, such as the New Orleans Police Department, have reported consistently high compliance rates (97–99 percent; Looney, 2016), though it is important to note that the New Orleans Police Department has been watched more closely than other agencies due to federal oversight.

Even less research has examined the relationship between compliance and desirable outcomes such as reductions in complaints and use of force. Recent research by Hedberg et al. (2017) emphasized that the disparate outcomes of BWCs might be directly related to officer buy-in and compliance with departmental adoption of BWCs. Examining data obtained through a quasi-experimental study in Phoenix, Arizona, they reported that officers who were assigned to wear a BWC only activated it 30 percent of the time when it was required by departmental policy. Hedberg et al. (2017) further reported that the BWC was activated in about “47 percent of incidents involving domestic violence, about 39 percent of incidents involving violent offenses, 26.5 percent of incidents involving property crime offenses, and 6.5 percent of traffic offenses” (p. 18). Using instrumental variable analysis, they found that the mere presence of a BWC reduced the likelihood of a complaint by about 38 percent; and further found that if BWC wearing officers would have been in full compliance with department policies, complaints would have declined by an estimated 96 percent. These findings suggest that as agencies begin to institutionalize BWC use, and officers embrace the technology, the potential impact of BWCs on complaints against the police might be more substantial than previously reported.

Others have noted that much of the US-based research relied (at least partially) on samples of officers who volunteered to wear BWCs (Ready and Young, 2015; Jennings et al., 2015; Braga et al., 2017; Headley et al., 2017). In fact, several notable randomized controlled trials evaluating BWCs start with a volunteer pool of officers (Braga et al., 2017; McClure et al., 2017; Sousa et al., 2016). However, officers who volunteer to wear BWCs might behave differently than officers who do not volunteer to wear BWCs. Compared to non-volunteers, for example, BWC volunteers might be more likely to comply with BWC policies, might be more predisposed to positively change their behavior or might exhibit some other behavioral or attitudinal trait that differentiates those officers who would self-select into a BWC program, compared to those who would not. Roy (2014) partially examined this issue in her study of 50 officers over a ten-month period in Mesa, Arizona. While half of the officers (n ¼ 25) were mandated to wear a BWC, the other half (n ¼ 25) volunteered to wear a BWC. She reported that officers who volunteered to wear a BWC were about four times more likely to report that BWCs were helpful, about twice as likely to issue a citation, 30 percent more likely to arrest a

suspect and 20 percent more likely to activate their BWC than those who were mandated to wear a BWC. These findings suggest that officer resistance to wearing a BWC might be important to understanding officer compliance with BWC policies, and the impact of BWCs on officer behavior.

Unfortunately, there has been little research on officer resistance to BWCs and most of the research that has been conducted has been limited to understanding officers' general perceptions of BWCs. Jennings et al. (2014), for example, reported that of the 95 Orlando (FL) patrol officers who volunteered to participate in a randomized controlled trial of BWCs, nearly 63 percent believed that their agency should adopt BWCs for all officers and 77 percent agreed that they would feel comfortable wearing the cameras. Likewise, Hickman (2017) examined the perceptions of 54 volunteer BWC wearers and their partners who were not wearing a camera. Hickman (2017) reported that most respondents were accepting of the technology, believed that it did not have a negative impact on their performance, and were in favor of their adoption.

Related, Goetschel and Peha (2017) examined the attitudinal differences between Pittsburg police officers who supported and opposed the adoption of BWCs. Interestingly, they reported that officers who supported the city-wide deployment of BWCs were more likely to believe that BWCs reduce complaints and improve the image of the police. Those who did not support the city-wide adoption of BWCs were significantly more likely to be concerned that BWCs would "erode trust" between police officers and the community and their supervisors. Their findings suggested that officers' beliefs about the strengths and weaknesses of BWCs have an impact on their support and opposition to their adoption.

In an examination of the impact of organizational justice on officer receptivity to BWCs in small and medium agencies in one Midwestern and one southern state, Kyle and White (2017) found that officers with higher perceptions of organizational justice were more receptive toward BWCs. These findings could indicate that officers who perceive their organizations to be internally just could have more trust in their agency to use BWC video to evaluate officers and address citizen concerns fairly.

Gaub et al. (2016) compared officer perceptions of BWCs in three cities (Phoenix, AZ, Tempe, AZ and Spokane, WA) between 2013 and 2015 before and after BWC deployment in each agency. The authors reported that officer perceptions of BWCs varied by department, with Phoenix officers reporting fairly negative perceptions of BWCs, Tempe officers reporting fairly positive perceptions of BWCs and Spokane officers reporting moderate perceptions of BWCs. The authors noted that the same relative order of BWC perceptions continued post deployment. Of interest was the fact that subsequent analysis revealed that the agency with the officers who expressed the least support for BWCs (Phoenix), had the lowest BWC policy compliance rates among the three cities (M. White, personal communication, February 7, 2018).

The present study

As noted above, BWC programs in many jurisdictions have been implemented as a consequence of external pressure to increase transparency and accountability, as well strong federal financial incentives to implement BWCs over a relatively short period of time. This top-down approach has in turn faced resistance from some line-level officers and their unions. As observed through media reports, officers have voiced a multitude of reasons for being opposed to BWCs. While there has been some research on the general perceptions of officers toward BWCs (Headley et al., 2017; Pelfrey and Keener, 2016; Smykla et al., 2016), there has been little research examining the variety of factors that might be associated with officer resistance to BWCs (for exception, see Goetschel and Peha, 2017). This is an important oversight as BWC program success hinges on officer acceptance of the technology. The present study examines officer resistance to wearing BWCs as part of a larger study on the effectiveness of BWCs in the Phoenix Police Department (PPD). We do so by examining several factors that we believe might be related to officer resistance to BWCs.

First, we are interested in understanding how officer educational attainment and prior experience with BWCs might be related to an officer's likelihood of volunteering to wear a BWC. Despite the longstanding debate about the importance of higher education for police officers, relatively little research has examined the impact of education on police attitudes. Some research in this area suggests that college-educated officers are less authoritarian and could have more flexible belief systems than officers who have not pursued higher education (see Roberg and Bonn (2004) for a review of prior work). Officer education could also relate to officer receptivity to research in general, though few evaluations have examined individual predictors of officer receptivity to research (Lum et al., 2012). Though they did not examine this exact question, Telep and Lum (2014) found that many officers in their three-agency study (Sacramento, CA, Richmond, VA and Roanoke County, VA) did not find academic research to be particularly useful. However, the vast majority of officers suggested that they were willing to try new strategies and tactics to improve crime control outcomes (Telep and Lum, 2014). Unfortunately, the link between individual officer education and receptivity to research was not examined. Researchers evaluating the impact of education on officer attitudes toward BWCs have identified limited differences in officer perceptions of BWCs as a function of educational attainment (see Pelfrey and Keener, 2016; Smykla et al., 2016).

Research also suggests that prior exposure to an innovation results in adoption bias (Valente, 1996). Those who have not experienced an innovation might perceive it to result in a substantial change to their environment, which could, for instance, disrupt their routinized work flow, increase their risk of poor performance or negatively influence their peer's perceptions of their performance. Conversely, those who have experienced an innovation can be more supportive or resistant to its adoption, depending on their prior experience (Valente, 1996). Initial findings suggest that prior exposure to BWCs might result in officers being less resistant to BWCs (Gaub et al., 2016; Kyle and White, 2017).

Second, we are interested in understanding how officer's general attitudes and perceptions of BWCs impact their willingness to wear a BWC. As discussed above, general perceptions of BWCs appear to have a significant impact on officer resistance to the technology (Goetschel and Peha, 2017). It stands to reason that officers who have generally positive perceptions of BWCs will be less resistant to their use. For example, officers who believe that BWCs will be well received, benefit officers and community members, and that BWCs will improve their job performance and satisfaction will be less likely to resist the adoption of BWCs than those who believe otherwise. Related, we are interested in examining the relationship between officer's perceptions about the advantages and disadvantages of BWCs and their willingness to wear a BWC. Officers who perceive that BWCs are valued for specific reasons might be more willing to adopt BWCs. If officers, for example, believe that BWCs will increase evidence available for prosecution or have a civilizing effect (i.e. improved citizen behavior), they might be more willing to wear a BWC, compared to officers who believe that BWCs have little impact on evidence acquisition or citizen behavior.

Third, we are interested in understanding how an officer's perceptions of organizational justice within their department and approach to policing might be related to their resistance to wearing a BWC. As officers who feel that they are treated fairly by their organizations have higher levels of organizational commitment, job satisfaction and compliance with departmental rules, they might also "buy in" to proposed reforms more readily than officers with lower perceptions of organizational justice (Rosenbaum and McCarty, 2017). Furthermore, those officers who are predisposed to emphasizing the processes used to respond to a problem might perceive the advantages of a BWC differently than those officers who emphasize the outcomes of a response to a problem. Based on this idea, officers who possess a more favorable orientation toward procedural justice might be more likely to support BWCs than officers who are less favorable toward procedural justice. Officers who possess an orientation that "bending the rules" is acceptable so long as the right outcome is achieved (i.e. noble cause beliefs) might be more likely to resist BWCs because they could be viewed as an impediment to being an effective police officer.

Fourth, we are interested in understanding how prior officer behavior and experiences are related to resistance to BWCs. Some commanders and officers have reported being opposed to BWCs because they believe that BWCs will result in officers being less active and less likely to engage in self-initiated activity (Ready and Young, 2015), thereby reducing police performance (for exception see Katz et al., 2014). It is also possible that those officers who are the most opposed to the implementation of BWCs are those who are at the highest risk for additional departmental review, due to higher numbers of use of force incidents or citizen complaints. Those officers who use force more often and/or who receive more citizen complaints might believe that they face greater scrutiny and risk of disciplinary actions with the adoption of BWCs than those who use force less often and/or receive fewer complaints.

Methodology

The data used in the present study were obtained as part of a larger randomized controlled trial of BWCs in PPD. We specifically collected employee records, an officer self-report survey, and official measures of officer activities. The official measures included Computer-Aided Dispatch/Records Management Systems (CAD/RMS) data, citizen complaints and official use of force reports.

PPD employee records were obtained to examine whether an officers' demographic characteristics impact their willingness to wear a BWC. For the present study, we restricted our analysis to officer education and prior experience wearing a BWC[1]. Given prior research finding that officers with higher levels of education are more receptive to innovation (Telep, 2017; Carter and Sapp, 1992), and the potential for officers with prior experience wearing a BWC to be more receptive to this technology specifically (Gaub et al., 2016), these are important considerations in the current study.

The officer self-report survey measured officer attitudes toward BWCs and a number of theoretical concepts that could be linked to perceptions of BWCs. The survey questions address officer perceptions of the effects of BWCs on evidence, citizen behavior and general perceptions of the technology. Survey questions further addressed officer perceptions of organizational justice, attitudes toward procedural justice and noble cause beliefs.The survey was created with the assistance of PPD personnel and union representatives. Several survey items were modified based on PPD feedback prior to survey administration.

All PPD officers assigned to patrol units were eligible to complete the survey (n ¼ 969)[2]. Surveys were administered during pre-shift briefings. Participation in the survey was voluntary and officers were asked to sign an informed consent document indicating their understanding that their survey data would be linked to their employee records. Of the 969 eligible patrol officers, 780 officers were present when surveys were administered (80.5 percent). Among those who were approached, 559 officers agreed to participate in the survey. This resulted in a 57.7 percent response rate for all eligible patrol officers or a 71.7 percent response rate for officers who were present when the survey was administered.

Our final data sources include official measures of officer activity collected for the 11-month period leading up to the self-report survey (June 2016 through April 2017). CAD/RMS data and official use of force data were collected from PPDs Crime Analysis and Research Unit. We obtained all citizen complaints made against officers from the PPD Professional Standards Bureau.

Dependent variable

As part of the randomized control trial noted above, 120 officers were randomly selected and asked to volunteer to wear a BWC. Of those, 49 officers who were randomly selected agreed to wear a BWC. These officers are referred to as the

volunteer group. A total of 99 officers who were asked to volunteer declined to wear a BWC. These officers are referred to as the resistor group. As a consequence, our dependent variable is a binary measure separating officers into two groups: volunteer (coded as 0) and resistor (coded as 1).

Independent and control variables

A variety of independent and control variables are examined to determine whether differences in volunteering to wear a BWC are associated with an officer's demographic characteristics, attitudinal differences or to official measures of officer performance. Officer education level and prior experience wearing a BWC were abstracted from the officers' employee records.

The survey included several items designed to assess officer perceptions of the evidentiary value of BWCs (Evidentiary value), the perceived impact of BWCs on citizen behavior (Citizen behavior) and questions surrounding an officers' general attitudes toward BWCs (General perceptions). Items addressing officer perceptions of organizational justice (Organizational justice), support for procedural justice (Procedural justice) and noble cause beliefs (Noble cause beliefs) were also included in the survey. Officer perceptions of organizational justice and noble cause beliefs were examined using items adapted from Wolfe and Piquero (2011). We examined officer support for procedural justice using items adapted from Skogan et al. (2015). The Procedural Justice scale included items that specifically address officer perceptions of the importance of treating all citizens equivalently (neutrality), giving citizens a voice in the interaction (voice), treating citizens respectfully (respect) and police trust in citizens (trust). All items were answered on a scale from 1 "Strongly Disagree" to 4 "Strongly Agree". See Table I for a list of survey items included in each scale.

Many officers who participated in the self-report survey did not respond to questions about the functionality of BWCs, often citing limited experience with the technology as their reason for leaving the questions blank. We used listwise deletion to remove officers with missing information on any of our dependent or independent variables prior to the analyses, resulting in a total of 125 officers being examined in the current study (44 volunteers; 81 resistors).

Several variables were also drawn from official reports of officer activity. CAD/RMS data were used to create a total percentage of officer self-initiated contacts in the 11 months leading up to the survey, which was logged to correct skewness and controlled for in the model. The total number of use of force incidents and citizen complaints filed against an officer were also included.

Table I.

Scale	Items
Evidentiary value ($\alpha = 0.76$)	When wearing the body camera I know that the prosecutor's office will be easy to work with when submitting video evidence
	Body cameras make it easier to prosecute DUI offenders
	Evidence gathered from a body camera helps prosecute cases involving domestic violence when the victim is unwilling to testify
Citizen behavior ($\alpha = 0.82$)	Citizens will be more cooperative once they become aware that an officer is wearing a body camera
	Citizens will become more respectful once they become aware that an officer is wearing a body camera
	Suspects are less likely to resist arrest when they become aware that the officer is wearing a body camera
	Generally, people become less aggressive when they are aware that a body camera is being used
	Having officers wear body cameras will increase police-community trust
	The use of body cameras increases the number of citizen complaints against officers
	The use of body cameras decreases the number of citizen complaints against officers
General perceptions ($\alpha = 0.86$)	The use of body camera equipment is well received by coworkers
	The use of body camera equipment is well received by the community
	The police benefit from body cameras
	The citizens benefit from body cameras
	When an officer wears a body camera it improves their job satisfaction
	Body cameras improve officer training
	Body cameras improve the overall job performance of an officer
	Body cameras increase officer safety
Organizational justice ($\alpha = 0.78$)	Disciplinary action is a result of pressure on supervisors from command staff to give out discipline
	Getting special assignments in the police department depends on who you know, not on merit
	When a police officer appears before the Disciplinary Review Board, the charge will probably be sustained even when he/she has a good defense
	The operations orders dealing with officer conduct are fair and sensible
	When you get to know the department from the inside, you begin to think that it is a wonder that it does one-half as well as it does
	Police supervisors are very interested in the success of their subordinates
Procedural justice ($\alpha = 0.81$)	It is important to give everyone a good reason why we are stopping them
	If people ask why we are treating them as we are, we should explain
	When dealing with citizens' concerns, officers need to explain what will happen next, when they are done at the scene
	It is very important that officers appear neutral in their application of legal rules
	Listening and talking to people is a good way to take charge of situations
	Officers need to show an honest interest in what people have to say, even if it is not going to change anything
	People should be treated with respect, even if they show disrespect
	Officers should at all times treat people they encounter with dignity and respect
	It is important that we remind people they have rights and that we respect them
	Police have enough trust in the public for them to work together effectively
	Officers should treat citizens as if they can be trusted to do the right thing
Noble cause beliefs ($\alpha = 0.83$)	Sometimes, an officer has to use methods prohibited by directives to enforce the law or make an arrest
	An officer cannot be consistently productive unless he/she bends or breaks the rules from time to time
	Sometimes officers use methods prohibited by directives to achieve arrest of a criminal, if it is the only way that it can be done
	Most supervisors agree that rules must be broken or bent to get the job done, but would not admit it
	Sometimes officers have to exaggerate probable cause to get a suspect off the street
	An officer occasionally has to bend the facts a little in court or in reports in order to get a criminal convicted
	Some people should get street justice after hurting a police officer because that is the only real punishment they will get

Note: Cronbach's α reported in parentheses under the scale title

Analysis plan

We begin by examining bivariate relationships between officer receptivity to BWCs and our variables of interest. We first used χ2 tests to assess relationships between officer receptivity to BWCs and demographic characteristics. Second, we used t-tests to examine the relationship between officer receptivity to BWCs and their mean scores on the self-reported attitudinal scales. Finally, two sample t-tests were also used to examine the relationships between officer receptivity and official activity levels.

We also examined a multivariate model to determine whether our bivariate findings hold when accounting for all of the officer characteristics of interest. As our dependent variable is a binary measure of officer group membership, we used binary logistic regression to determine whether an officer's demographics, self-reported attitudes or official activity levels could be used to predict whether an officer would volunteer or resist wearing a BWC. We checked for potential multicollinearity issues among our independent variables using variance inflation factors and did not find evidence of multicollinearity (all VIFso4).

Results

Bivariate results

As shown in Table II, educational attainment varied significantly between volunteers and resistors, with officers in the volunteer group having substantially higher educational attainment than officers in the resistor group. For instance, volunteer officers were more likely to have a four-year college degree/an advanced degree (55.6 percent) compared to resistors (24.7 percent). Similarly, volunteer officers were more likely to report prior experience wearing a BWC (11.4 percent) when compared to resistors (6.7 percent), though this difference was not statistically significant.

We also found significant differences between volunteers and resistors regarding their perceptions of the impact of BWCs on citizen behavior (a mean of 2.6 compared to 2.4, on a scale from 1 to 4). We did not identify significant differences between volunteers and resistors with regard to their perceptions of the evidentiary value of BWCs or general perceptions of BWCs. Similarly, we did not find any significant differences between volunteers and resistors in their perceptions of organizational justice, support for procedural justice or noble cause beliefs. There were no significant differences between volunteers and resistors in terms of their percentage of self-initiated activities, the number of times they used force, or in the number of citizen complaints they received.

	BWC volunteers ($n = 44$)		BWC resistors ($n = 81$)	
	n	%	*n*	%
*Highest education completed***				
High school diploma/GED	2	4.6	13	16.9
Some college/2-year degree	18	40.9	45	58.4
4-year degree/advanced degree	24	55.6	19	24.7
Past BWC experience				
Yes	5	11.4	5	6.7
Evidentiary value				
Mean	2.5		2.6	
SD	0.6		0.6	
*Citizen behavior***				
Mean	2.6		2.4	
SD	0.4		0.4	
General perceptions				
Mean	2.5		2.3	
SD	0.6		0.4	
Organizational justice				
Mean	2.5		2.4	
SD	0.5		0.4	
Procedural justice				
Mean	2.9		2.9	
SD	0.3		0.3	
Noble cause beliefs				
Mean	1.9		2	
SD	0.5		0.5	
Self-initiated activity (%)				
Mean	0.16		0.15	
SD	0.08		0.08	
Official use of force reports				
Mean	0.34		0.44	
SD	0.80		0.94	
Citizen complaints				
Mean	0.27		0.28	
SD	0.45		0.53	

Notes: *$p < 0.05$; **$p < 0.01$

Table II. Descriptive statistics and bivariate results

Multivariate results

Given our interest in understanding officer resistance to BWC adoption, we used volunteer officers as our reference category in the analysis. Several interesting findings emerge from the logistic regression analysis (see Table III). Officers who resisted wearing a BWC were significantly less likely to have a four-year college degree/an advanced degree than officers who volunteered to wear a BWC (po0.01). Again, no significant differences emerged between the resistors and volunteers based on past experience wearing a BWC.

Though we expected to identify significant attitudinal differences between volunteers and resistors, we found an overall lack of variation between these groups. Unsurprisingly, however, officers who volunteered to wear a BWC were significantly more likely to believe that the technology improved citizen behavior in comparison to BWC resistors (po0.05). There were no significant differences between officers in their

perceptions of the evidentiary value of BWCs or general perceptions of BWCs compared to volunteer officers. Similarly, no differences emerged among perceptions of organizational justice, levels of support for procedural justice and noble cause beliefs between resistor and volunteer officers. Last, there were no statistically significant differences between officers who resisted a BWC compared to officers who volunteered to wear a BWC in their percentage of self-initiated calls for service (logged), their number of official use of force reports, or the number of citizen complaints they received.

Some college	−1.697 (0.966)
Four-year degree	−2.726** (0.988)
Past BWC experience	−1.359 (0.763)
Evidentiary value	0.703 (0.403)
Citizen behavior	−1.297* (0.567)
General perceptions	−0.410 (0.610)
Organizational justice	0.076 (0.577)
Procedural justice	−0.296 (0.706)
Noble cause beliefs	−0.027 (0.497)
Self-initiated calls for service (% logged)	−0.466 (0.364)
Official use of force reports	−0.024 (0.250)
Citizen complaints	0.016 (0.390)
Constant	4.859 (3.366)
Observations	125

Notes: Robust standard errors in parentheses. High school education and the volunteer group are used as the reference categories. *$p < 0.05$; **$p < 0.01$

Table III. Binary logistics regression results

Discussion

Our results indicate that officers who volunteered to wear a BWC and officers who resisted wearing a BWC were more similar than they were different. That said, a few notable differences emerged. Officers who volunteered to wear a BWC were significantly more likely to have a four-year college degree/an advanced degree than their resistor counterparts. This supports prior research that officers with higher levels of education are more receptive to innovative strategies and technologies in policing (Telep, 2017). We also found that officers with prior experience wearing a BWC were more likely to volunteer to wear a BWC (compared to those who resisted wearing a BWC), though the difference fell short of statistical significance. This suggests that once officers are familiar with using BWC technology, they might be more willing to continue to do so in the future. This could occur by reducing officers' concerns about impact of the camera on their work through familiarization. We also found that those who volunteered to wear a BWC were more likely to believe that BWCs improve citizen behaviors in police-citizen interactions, compared to officers who resisted BWCs. These findings are consistent with Goetschel and Peha (2017) and suggest that education campaigns that emphasize the benefits of BWCs in terms of improved police-citizen interactions might improve officer attitudes toward BWCs.

Despite the aforementioned differences, some of the most powerful and surprising findings center on the overall lack of significant differences between volunteer and resistor groups with respect to their perceptions of BWCs. For instance, there were no significant differences between officers who volunteered to wear a BWC and those who resisted in terms of their general perceptions of BWC technology. Thus, it appears that differences in officer receptivity to BWCs in this study were unrelated to general perceptions of the technology and are likely attributable to other factors.

Contrary to our expectations, we did not identify any significant relationship between officer perceptions of organizational justice within PPD and their receptivity to BWCs. Given the potential for agencies to use BWCs to investigate concerns relating to officer conduct, and to potentially clear officers of falsely accused wrongdoing, the lack of a relationship between officer trust in the PPD organization and officer willingness to wear a BWC was surprising. We further identified a lack of differences between resistor officers and volunteers based on their perceptions of procedural justice and noble cause beliefs. As BWCs are often promoted as a mechanism to increase police legitimacy and accountability, it is surprising that officers in the volunteer and resistor groups did not differ on their support for treating citizens in a procedurally just manner. Thus, it does not appear that officer attitudes regarding the treatment of citizens impact their willingness to voluntarily wear a BWC. Furthermore, volunteer and resistor officers did not report having attitudes favorable to bending the rules in order to achieve desired ends at different rates, as indicated by insignificant differences in support for noble cause beliefs.

Finally, this study identified no differences in official levels of activity, use of force or misconduct between officers who volunteered to wear a BWC and those who resisted a BWC. This contradicts the idea that the “bad” officers who are engaging in misconduct, or low levels of activity, are the major opponents of BWCs. In fact, the differences between officers on these measures were not only statistically insignificant, they were substantively indistinguishable for most of the variables examined. Claims that officers who resist BWCs are those who engage in greater numbers of use of force incidents or experience more complaints, and are therefore more fearful of the negative consequences of BWCs, appear to be unfounded. These types of false accusations might only increase conflict between advocates of BWCs and BWC resistors and their representatives, yielding few positive results.

The limited differences we identified between these groups of officers in terms of demographic characteristics, self-reported attitudes and official activity measures indicate that resistance to BWCs is likely due to other factors. For instance, officer receptivity to BWCs could be tied to the larger squad or precinct culture a particular officer is assigned to. These differences in officer receptivity could also be related to variation in leadership efforts to recruit officers to wear BWCs voluntarily. For instance, if an officer is asked to wear a BWC by a supervisor who takes the time to discuss the officers’ concerns in person, they could be more likely to volunteer to use the

technology than officers who are asked to participate through mass e-mails. Unfortunately, our data did not allow us examine how randomly selected officers were asked to volunteer in the current study. As such, future research should assess how police volunteers are recruited, which recruitment methods are most effective and how squad and precinct culture might influence officer receptivity to BWCs. We were also unable to examine other measures that could have impacted officer receptivity to BWCs, such as officer comfort with technology more generally or officer exposure to BWC perceptions of others through peers or the media.

Finally, it is also important to note that a limitation of this study is that it is a single site/single police department study, and any unique and or unmeasured features of PPD could affect our findings. For example, the PPD was an early pioneer in the use and testing of BWCs in one of their precincts. As a result, the PPD had a history of BWC experience and subsequent lore that could be passed along to PPD officers in the current study and could have affected their perceptions and beliefs about BWC use. These findings might differ from those found in departments without any prior experience with BWCs. The construction of a more complete picture of BWC volunteers and resistors requires additional studies of a variety of BWC adopter departments so that structural, cultural and historical factors that affect perceptions and beliefs can be sorted out. Continued research examining factors that impact officer receptivity to BWCs are particularly important given the potential for receptivity to substantially impact the successful implementation of BWC programs. For instance, BWC resistors could have lower compliance levels with BWC policies or act in other ways to circumvent the goals of BWC programs. Conversely, having a department of officers who are receptive and on board with the adoption of BWCs could result in higher levels of compliance with BWC policies and better long-term outcomes associated with the use of BWCs.

Acknowledgments

This document was made possible through the support of the Bureau of Justice Assistance Smart Policing Initiative Grant Program under Award No. 2015-WY-BX-0004. The contents of this document are the sole responsibility of the authors and do not necessarily reflect the views of the Bureau of Justice Assistance, Arizona State University or the Phoenix Police Department. The authors would like to acknowledge support from Executive Assistant Chief Michael Kurtenbach and Sergeant Kevin Johnson for spearheading efforts on behalf of the Phoenix Police Department. The authors would also like to thank Rene Brugman and Karen Kontak from the Phoenix Police Department Crime Analysis and Research Unit.

Notes

1. We included several additional demographic characteristics (gender, age, race/ethnicity, years of service) in earlier versions of the analysis but due to their lack of theoretical relevance and their insignificant relationship with our outcome measure, we

eliminated these variables from the analysis to increase parsimony and the statistical power of our models.

2. Officers assigned to one precinct (Maryvale) where BWCs had already been implemented as part of a pilot study were not asked to participate in the current study. See Katz et al. (2014) for further information regarding the design and results of the BWC pilot study.

References

Ariel, B., Farrar, W.A. and Sutherland, A. (2015), "The effect of police body-worn cameras on use of force and citizens' complaints against the police: a randomized controlled trial", Journal of Quantitative Criminology, Vol. 31 No. 3, pp. 509-535.

Ariel, B., Sutherland, A., Henstock, D., Young, J., Drover, P., Sykes, J. and Henderson, R. (2016), "Wearing body cameras increases assaults against officers and does not reduce police use of force: results from a global multi-site experiment", European Journal of Criminology, Vol. 13 No. 6, pp. 744-755.

Ariel, B., Sutherland, A., Henstock, D., Young, J., Drover, P., Sykes, J., Megicks, S. and Henderson, R. (2017), " 'Contagious Accountability': a global multisite randomized controlled trial on the effect of police body-worn cameras on citizens' complaints against the police", Criminal Justice and Behavior, Vol. 44 No. 2, pp. 293-316, available at: https://doi.org/10.1177/0093854816668218

Braga, A., Coldren, J.R., Jr, Sousa, W., Rodriguez, D. and Alper, O. (2017), "The benefits of body-worn cameras: new findings from a randomized controlled trial at the Las Vegas Metropolitan Police Department", Final Report to the National Institute of Justice, 2013-IJ-CX-0016, Las Vegas, NV, September.

Bruinius, H. (2016), "Why police are pushing back on body cameras", The Christian Science Monitor, available at: www.csmonitor.com/USA/Justice/2016/0830/Why-police-are-pushing-back-onbody-cameras (accessed March 14, 2018).

Bryan, S. (2015), "Broward cities focus on pros, cons of cop body cams", Sun Sentinel, available at: www.sun-sentinel.com/news/fl-body-cameras-hallandale-update-20150414-story.html (accessed March 14, 2018).

Carter, D.L. and Sapp, A.D. (1992), "College education and policing: coming of age", FBI Law Enforcement Bulletin, Vol. 61 No. 1, pp. 8-14.

Chimurenga, T. (2017), "Not my job: police assert workers' rights not to wear body-cams", MPN News, available at: www.mintpressnews.com/not-my-job-police-assert-workers-rights-to-not-wearbody-cams/235562/

Gaub, J.E., Choate, D.E., Todak, N., Katz, C.M. and White, M.D. (2016), "Officer perceptions of body-worn cameras before and after deployment: a study of three

departments", Police Quarterly, Vol. 19 No. 3, pp. 275-302, available at: http://doi.org/10.1177/1098611116653398

Goetschel, M. and Peha, J.M. (2017), "Police perceptions of body-worn cameras", American Journal of Criminal Justice, Vol. 42 No. 4, pp. 698-726.

Headley, A.M., Guerette, R.T. and Shariati, A. (2017), "A field experiment of the impact of body-worn cameras (BWCs) on police officer behavior and perceptions", Journal of Criminal Justice, Vol. 53, pp. 102-109, available at: http://doi.org/10.1016/j.jcrimjus.2017.10.003

Hedberg, E.C., Katz, C.M. and Choate, D.E. (2017), "Body-worn cameras and citizen interactions with police officers: estimating plausible effects given varying compliance levels", Justice Quarterly, Vol. 34 No. 4, pp. 627-651, available at: http://doi.org/10.1080/07418825.2016.1198825

Hickman, K.C. Sr (2017), "From behind the lens: police officer perceptions as body-worn cameras are introduced into the New York City Police Department", St John Fisher College, Rochester, NY, available at: https://fisherpub.sjfc.edu/cgi/viewcontent.cgi?article=1301&context=education_etd

Jennings, W.G., Fridell, L.A. and Lynch, M.D. (2014), "Cops and cameras: officer perceptions of the use of body-worn cameras in law enforcement", Journal of Criminal Justice, Vol. 42 No. 6, pp. 549-556, available at: http://doi.org/10.1016/j.jcrimjus.2014.09.008

Jennings, W.G., Lynch, M.D. and Fridell, L.A. (2015), "Evaluating the impact of police officer body-worn cameras (BWCs) on response-to-resistance and serious external complaints: evidence from the Orlando Police Department (OPD) experience utilizing a randomized controlled experiment", Journal of Criminal Justice, Vol. 43 No. 6, pp. 480-486, available at: http://doi.org/10.1016/j.jcrimjus.2015.10.003

Jennings, W.G., Fridell, L.A., Lynch, M., Jetelina, K.K. and Reingle Gonzalez, J.M. (2017), "A quasiexperimental evaluation of the effects of police body-worn cameras (BWCs) on response-to-resistance in a large metropolitan police department", Deviant Behavior, Vol. 38 No. 11, pp. 1332-1339, available at: http://doi.org/10.1080/01639625.2016.1248711

Katz, C.M., Choate, D.E., Ready, J.R. and Nuño, L. (2014), Evaluating the Impact of Officer Worn Body Cameras in the Phoenix Police Department, Center for Violence Prevention & Community Safety, Arizona State University, Phoenix, AZ.

Kyle, M.J. and White, D.R. (2017), "The impact of law enforcement officer perceptions of organizational justice on their attitudes regarding body-worn cameras", Journal

of Crime and Justice, Vol. 40 No. 1, pp. 68-83, available at: https://doi.org/10.1080/0735648X.2016.1208885

Looney, A. (2016), "Internal audit shows NOPD officers turned on their body worn cameras nearly 100 percent of the time in 2016, NOPD news", available at: http://nopdnews.com/post/december-2016/internal-audit-shows-nopd-officers-turned-on-their/ (accessed May 15, 2018).

Lum, C., Telep, C.W., Koper, C.S. and Grieco, J. (2012), "Receptivity to research in policing", Justice Research and Policy, Vol. 14 No. 1, pp. 61-95, available at: https://doi.org/10.3818/JRP.14.1.2012.61

McClure, D., La Vigne, N., Lynch, M., Golian, L., Lawrence, D. and Malm, A. (2017), How Body Cameras Affect Community Members' Perceptions of Police, Urban Institute, Washington, DC.

Pelfrey, W.V.J. and Keener, S. (2016), "Police body worn cameras: a mixed method approach assessing perceptions of efficacy", Policing: An International Journal of Police Strategies & Management, Vol. 39 No. 3, pp. 491-506.

Perez, E.S. (2017), "Police union pushes back on body cameras in El Paso, Texas", Government Technology, available at: www.govtech.com/public-safety/police-union-pushes-back-on-bodycameras-in-el-paso-texas.html (accessed March 14, 2018).

Ready, J.T. and Young, J.T.N. (2015), "The impact of on-officer video cameras on police–citizen contacts: findings from a controlled experiment in Mesa, AZ", Journal of Experimental Criminology, Vol. 11 No. 3, pp. 445-458, available at: http://doi.org/10.1007/s11292-015-9237-8

Roberg, R. and Bonn, S. (2004), "Higher education and policing: where are we now?", Policing: An International Journal of Police Strategies & Management, Vol. 27 No. 4, pp. 469-486, available at: https://doi.org/10.3868/s050-004-015-0003-8

Rosenbaum, D.P. and McCarty, W.P. (2017), "Organizational justice and officer 'buy in' in American policing", Policing: An International Journal of Police Strategies & Management, Vol. 40 No. 1, pp. 71-85.

Roy, A. (2014), "On-officer video cameras: examining the effects of police department policy and assignment on camera use and activation", unpublished master's thesis, Arizona State University, Tempe, AZ.

Skogan, W.G., Van Craen, M. and Hennessy, C. (2015), "Training police for procedural justice", Journal of Experimental Criminology, Vol. 11 No. 3, pp. 319-334, available at: http://doi.org/10.1007/s11292-014-9223-6

Smykla, J.O., Crow, M.S., Crichlow, V.J. and Snyder, J.A. (2016), "Police body-worn cameras: perceptions of law enforcement leadership", American Journal of

Criminal Justice, Vol. 41 No. 3, pp. 424-443, available at: https://doi.org/10.1007/s12103-015-9316-4

Sousa, W.H., Coldren, J.R., Rodriguez, D. and Braga, A.A. (2016), "Research on body worn cameras: meeting the challenges of police operations, program implementation, and randomized controlled trial designs", Police Quarterly, Vol. 19 No. 3, pp. 363-384.

Telep, C.W. (2017), "Police officer receptivity to research and evidence-based policing: examining variability within and across agencies", Crime and Delinquency, Vol. 63 No. 8, pp. 976-999, available at: http://doi.org/10.1177/0011128716642253

Telep, C.W. and Lum, C. (2014), "The receptivity of officers to empirical research and evidence-based policing: an examination of survey data from three agencies", Police Quarterly, Vol. 17 No. 4, pp. 359-385, available at: https://doi.org/10.1177/1098611114548099

United States Department of Justice (2015), "Justice department awards over $23 million in funding for body worn camera pilot program to support law enforcement agencies in 32 states", Press Release No. 15-1145, Office of Public Affairs, Washington, DC.

United States Department of Justice (2016), "Department of justice awards over $20 million to law enforcement body-worn camera programs", Press Release No. 16-1092, Office of Public Affairs, Washington, DC.

Valente, T.W. (1996), "Social network thresholds in the diffusion of innovations", Social Networks, Vol. 18 No. 1, pp. 69-89.

White, M.D., Gaub, J.E. and Todak, N. (2017), "Exploring the potential for body-worn cameras to reduce violence in police-citizen encounters", Policing, Vol. 12 No. 1, pp. 66-76, available at: https://doi.org/10.1093/police/paw057

Wolfe, S.E. and Piquero, A.R. (2011), "Organizational justice and police misconduct", Criminal Justice and Behavior, Vol. 38 No. 4, pp. 332-353, available at: http://doi.org/10.1177/0093854810397739

Yokum, D., Ravishankar, A. and Coppock, A. (2017), Evaluating the Effects of Police Body-Worn Cameras: A Randomized Controlled Trial, The Lab@ DC, Executive Office of the Mayor, Washington, DC.