

COMMUNITY PERCEPTIONS OF POLICE BODY-WORN CAMERAS

The Impact of Views on Fairness, Fear, Performance, and Privacy

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Despite relatively little extant research, efforts to expand the use of body-worn cameras (BWCs) in policing are increasing. Although recent research suggests positive impacts of BWCs on reducing police use-of-force and citizen complaints, little is known about community members' perceptions of BWCs. The current study examined perceptions of residents of two Florida counties and found a large majority of respondents supported the use of BWCs. Structural equation modeling was utilized to examine factors that influence views of BWCs. Findings indicate that positive perceptions of police performance and more police interaction were associated with greater perceived benefits of BWCs, whereas concerns about the privacy reduced perceived BWC benefits. Respondents' views of procedural fairness and crime concern were indirectly related to perceptions BWC benefits. Non-White and younger respondents were indirectly less likely to perceive benefits. Implications of these findings and future directions for research are discussed.

Keywords: policing; law enforcement; body-worn cameras; procedural fairness; fear of crime; police performance; structural equation modeling

One month after the grand jury decided not to indict Ferguson, Missouri, police officer Darren Wilson in the killing of teenager Michael Brown, the White House released the *Interim Report of the President's Task Force on 21st Century Policing* (President's Task Force on 21st Century Policing, 2015). The report recommended greater use of police officer body-worn cameras (BWCs), improved collection of officer involved shooting data, sanctions on police departments using unnecessary military tactics and equipment, and about US\$75

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million to fund the purchase of BWCs. In spite of the fact that such funding would only be enough to outfit a small fraction of the nation's 18,000 separate law enforcement agencies with BWCs, it signaled a major vote of confidence from the federal government about a new method of police surveillance and high expectations for the new technology.

The task force report created six pillars and 62 recommendations to create new police knowledge and practice to benefit society in the areas of building trust and legitimacy, policy and oversight, technology and social media, community policing and crime reduction, training and education, and officer wellness and society. However, the report calls the first pillar—building trust and legitimacy with the community—the “foundational principle underlying this inquiry into the nature of relations between law enforcement and the communities they serve” (President’s Task Force on 21st Century Policing, 2015, p. 9). As Papachristos, Meares, and Fagan (2012) and others have observed, compliance with the law is best secured when people believe that those who are enforcing the law have the legitimate authority to tell them what to do. Gallup polls, however, show the public’s confidence in police work has not seen any significant improvement over the past three decades, and among some populations of color, confidence has declined (McCarthy, 2014). Although largely touted in the media and among advocates for reform as a panacea for poor policing and strained police-community relations, many questions remain about BWCs. Anecdotal evidence and limited research suggest that the public supports BWCs, but the factors driving public support remain unknown. Shortly after the task force issued its report, President Obama cautioned against expecting easy answers to the myriad questions surrounding BWCs (Bruer, 2015).

Today, George Mason University’s Center for Evidence-Based Crime Policy has launched a four-part research project into what is known and what needs to be known about BWCs (Lum, Koper, Merola, Scherer, & Reioux, 2015). The Center’s researchers conducted a systematic review of existing and ongoing research relevant to BWCs as a first step in developing an evidence-based research agenda and to ensure that research is responsive to the needs of police and citizens. The researchers discovered 12 existing empirical studies of BWCs and 30 ongoing research projects. They mapped all 42 studies by the research questions addressed and found that the most common research that has been or is being addressed relates to the impact of BWCs on the quality of officer–citizen interaction as measured by complaints and officer use of force. Fewer studies have addressed the relationship between BWCs and citizen satisfaction with police encounters or the relationship between BWCs and community attitudes and perceptions of police and their legitimacy. To help fill the gap, the current study aims to contribute to this underdeveloped area of research by reporting on community members’ views of BWCs and the impact of procedural fairness, concern about crime, police performance, and concern over privacy on those views in two Florida counties where BWCs were implemented at similar time periods.

LITERATURE REVIEW

BWCs

As indicated earlier, BWCs began to gain attention in 2013, but widespread interest increased dramatically in 2014 following highly publicized police use-of-force encounters. The technology is also somewhat new. As such, the scholarly literature on BWCs is relatively limited to date. Thus, much of the advocacy for widespread implementation of BWCs

is based on limited research of varying levels of quality and anecdotal evidence. Even in randomized controlled trials examining the impact of BWCs, caution in interpreting results is still called for due to technical, political, and administrative challenges (Sousa, Coldren, Rodriguez, & Braga, 2016). Nevertheless, several studies have examined the impact of BWCs on police work, perceptions of police personnel and citizens, and implementation issues.

Ariel, Farrar, and Sutherland (2015) reported results from a randomized controlled trial in Rialto, California, over a 12-month period. The Rialto study found significant reductions in use-of-force incidents for shifts utilizing BWCs. Furthermore, citizen complaints against the police department were also significantly reduced after the introduction of BWCs. The following year, Ariel et al. (2016) assessed whether BWCs could deter police from using force and/or deter suspects from instigating forceful encounters. Researchers found that during shifts with cameras in which officers adhered to protocol, police use-of-force fell by 37% over camera-free shifts. Researchers reasoned that the combination of the camera plus the early warning creates awareness that the encounter is being filmed, thus, modifying the behavior of everyone involved. However, during shifts in which officers used their discretion regarding whether to turn on the BWCs, police use-of-force rose 71% compared with camera-free shifts. Speculating why use of force increased, the researchers wrote

. . . the selective activation of cameras by police is a corollary to situations that are already escalating in aggression . . . activating a camera during a tense situation may serve to increase the aggression of the citizen/suspect (and thus the officer). (Ariel et al., 2016, "Discussion and Conclusion," para. 1)

Jennings, Lynch, and Fridell (2015) also conducted a randomized controlled experimental design to examine the impact of BWCs on police use-of-force and citizen complaints in Orlando, Florida. During the 12-month implementation period, officers randomly assigned to wear BWCs had a significantly lower prevalence of use-of-force incidents and citizen complaints compared with non-BWC officers. Jennings et al. (2015) also reported that while the prevalence of use-of-force incidents was significantly reduced for the BWC officers, the total number of use-of-force incidents and citizen complaints were reduced for both BWC and non-BWC officers during the BWC implementation period compared with the year prior to implementation. This suggests that the positive impact of BWCs may extend beyond those officers assigned to wear them.

Hedberg, Katz, and Choate (2016) examined data from two precincts in Phoenix, Arizona (one assigned BWCs and the other as control) to estimate two measures of effectiveness of BWCs in reducing problematic police–citizen interactions. Using data obtained from more than 44,000 incidents in two precincts (approximately 22,000 incidents in each precinct), they estimated the effect of being assigned a BWC (but not necessarily using the camera) on reducing complaints and resistance associated with incidents, and the effect of BWCs if they were used with full compliance.

The presence of a BWC produced a reduction in complaints of about 62%, suggesting that if BWCs are employed as prescribed, a majority of complaints against officers would be eliminated because officers, and those they interact with, behave at least sometimes differently when a BWC is present, regardless of whether the BWC has been activated

(Hedberg et al., 2016). However, the researchers also found low-compliance rates in BWC activation with cameras being activated in only about 32% of incidents, mostly those involving domestic violence and violent offenses. Had officers complied with department policy, the researchers estimate there would have been a 96% reduction in complaints. Furthermore, the researchers found that BWCs did not influence the number of arrests made by officers and the presence and activation of BWCs did not have a significant impact on resisting arrest by the suspect.

Morrow, Katz, and Choate (2016) examined the effect of pre- and post-BWC deployment on a number of outcomes related to prosecution and conviction of intimate partner violence offenders (IPV). They found that compared with posttest noncamera cases, posttest BWC cases were more likely to result in arrest, have charges filed, and have cases furthered. Posttest BWC cases were also more likely to result in a guilty plea, and result in a guilty verdict if the case went to trial.

In an effort to examine the impact of video on citizen perceptions of a police shooting, Culhane et al. (2016) compared citizens' views of whether a shooting was a justifiable homicide before and after the police shooting of Michael Brown in Ferguson, Missouri. In pre- and poststudies, participants watched video, read, or heard the transcript of an actual police shooting. Results from Study 1 (preshooting of Michael Brown) indicated that citizens who could hear or see the event via BWC video feed were significantly more likely to perceive the shooting was justified compared with reading the transcript of the event. However, video evidence of the same police shooting in Study 2 (postshooting of Michael Brown) produced the highest citizen perceptions of an unjustifiable shooting and audio evidence produced the least. Thus, it appears that the context in which video is viewed can impact its effect on citizen perceptions.

Other studies also examined the impact of BWCs using research designs that did not employ randomized controlled trials. For example, research in the Mesa, Arizona, police department reported fewer citizen complaints and fewer use-of-force incidents after implementation of BWCs (Miller, Tolliver, & Forum, 2014; Rankin, 2013). The Mesa, Arizona, research also found fewer citizen complaints against officers wearing BWCs compared with non-BWC officers. Research in Phoenix, Arizona, moreover, reported reductions in citizen complaints for officers wearing BWCs and an impact on domestic violence case processing after BWC implementation (Katz, Choate, Ready, & Nuño, 2014). Several studies in the United Kingdom reported reductions in crime (Organisational Development and Support [ODS] Consulting, 2011; Police and Crime Standards Directorate, 2007), citizen complaints, and officers' time spent on paperwork and increases in prosecutions (Police and Crime Standards Directorate, 2007).

A few studies have also examined perceptions of either officers or citizens concerning BWCs. Jennings, Fridell, and Lynch (2014) reported results of a preliminary examination of Orlando, Florida, police officers' perceptions of the possible impact of BWCs before the technology was introduced in the department, finding that officers were generally supportive of BWCs. In their follow-up study, Jennings et al. (2015) found that, 12 months after BWC implementation, three out of four officers assigned to wear BWCs believed that all officers in the agency should be assigned the cameras and large majorities of those officers felt that BWCs could help improve evidence collection, report writing, and other process-related outcomes. The Orlando officers were more skeptical, however, about the impact of BWCs on officer or citizen behavior.

Gaub, Chaote, Todak, Katz, and White (2016) also surveyed officer perceptions of BWCs pre- and postcamera deployment and within three police departments (Phoenix and Tempe, AZ, and Spokane, WA). Predeployment results show that officers in all three departments believed that BWCs have evidentiary value. Other predeployment survey questions on citizen reaction, police officer behavior, familiarity, comfort and ease of use, general perceptions, and overall perceptions, as well as all postdeployment survey questions found Phoenix officers held mostly negative views about BWCs, Tempe officers held largely positive perceptions, and Spokane officers' perceptions generally fell somewhere in between. Timing and implementation may explain the differences. Phoenix surveyed officers in 2013 when BWC technology was still emerging and prosecutors were unaccustomed to handling BWC footage. Tempe and Spokane surveyed officers in 2015 when BWCs were more common, federal funding was available, research projects were underway, and Evidence.com allowed more seamless sharing of video footage. Tempe line officers were also involved with an 18-month planning and implementation process making the acceptance of cameras much smoother for line officers. Whereas in 2013 Phoenix officers had only word of mouth, gossip, or second-hand information to inform their beliefs about BWCs, as more departments deployed BWCs Tempe and Spokane officers benefitted from diffusion of the innovation.

Smykla, Crow, Crichlow, and Snyder (2016) surveyed law enforcement leadership to explore their perceptions of BWCs. Half of the respondents were supportive of using the technology in their departments and half or more believed that BWCs would reduce unwarranted complaints against officers and improve citizens' behavior, but only about one in five felt that the cameras would affect police officer behavior. Police leadership also expressed some concern regarding citizens' privacy, but few indicated concern about officers' privacy. The respondents were more skeptical of public support for BWC and media's access to BWC videos, with two thirds agreeing that the public supports the use of BWCs because society does not trust the police, and three out of five believed the media would use videos to embarrass the police.

Only three known studies examined public perceptions of BWCs. ODS Consulting (2011) conducted two studies in the United Kingdom, reporting that the majority of citizens supported police officers wearing BWCs and believed that the cameras would reduce crime and make their community safer. Sousa, Miethe, and Sakiyama (2015) conducted a national survey of public perceptions of BWCs in the United States and also found support for use of the technology. The vast majority of respondents supported the required use of BWCs and felt that the cameras would improve officer behavior while reducing citizen complaints. Sousa et al. (2015) also reported that a majority of respondents agreed that citizens' trust in and relationships with the police would be improved with the implementation of BWCs. Unfortunately, support for BWCs was not broken down by demographic characteristics of the respondents. However, the overwhelming support for BWCs across various groups must be considered. Constituents and residents across different communities may hold favorable perceptions toward police use of BWCs, however, they may also have different reasons for their support. Such differences could be apparent across age, race, and gender. This notion is explored further in our discussion of the research findings.

PROCEDURAL FAIRNESS

According to Thibaut and Walker (1975), citizens' satisfaction with the decisions made by legal authorities are independently influenced by their judgments about the fairness of

the process. Perceptions regarding the fair distribution of resources and equitable decision making across communities also have a strong influence on public judgments about justice (Leventhal, 1980). The term procedural justice, also known as procedural fairness, reflects this rubric of individualized attitudes toward legal authority, and it highlights the salience of process-related issues in the administration of justice (Tyler, 1988, 2000). It therefore suggests that attitudes toward the justice system are associated with the perceived fairness of the process and how individuals were treated by legal officials (Thibaut & Walker, 1975). Tankebe (2013) and Bottoms and Tankebe (2012) distinguished procedural justice/fairness from effectiveness. Procedural justice/fairness is related to both the “quality of decision making” and “quality of treatment” (Tankebe, 2013, p. 111). The former involves assessment of police honesty, among other factors, whereas the latter entails perceptions of police treating individuals with respect and courtesy. Effectiveness, or performance, relates to the ability of police to achieve effective results (Bottoms & Tankebe, 2012; Tankebe, 2013). In addition, regarding the link between police effectiveness and legitimacy, citizens may give attributions of legitimacy when they are provided with material benefits or prestige. When it comes to legitimacy and perceptions of effective policing, community perceptions toward police would be largely based on the extent to which police deliver tangibly on their promise to protect and serve (Bottoms & Tankebe, 2012). Such results could be evidenced in crime reduction, reports of perpetrators being apprehended, increased patrol, or even the use of BWCs.

These iterations of procedure and process-related policing, and their impact on citizens’ perceptions, are a growing area of research that raises questions regarding conceptualization and measurement that may be outside the scope of this article. Notwithstanding such iterations, it is important to consider the core thesis of procedural justice. It was initially developed as a way of explaining citizens’ reactions to court decisions (Leventhal, 1980). It was subsequently extended to typical interactions between individuals and the police—the most visible form of government in the community (Tyler, 1988). Moreover, daily encounters between community members and the police comprise the most regular depictions of how procedural justice works on the street (Sunshine & Tyler, 2003). Thus, when a police officer issues a traffic citation, as unpleasant as the prospect of receiving a speeding ticket might be, if the officer is respectful and explains the reason for the violation, the motorist is less likely to view the process unfavorably (Tyler, 1988; Tyler & Fagan, 2008). Furthermore, Mazerolle, Bennett, Antrobus, and Eggins (2012) conducted a randomized field trial on the impact of the police use of procedural justice principles during routine encounters with citizens. The findings show that citizens’ perceptions toward “drink-driving” as well as their satisfaction with the police can be influenced by the quality of their interactions with police during routine encounters.

A growing body of research confirms that police agencies are ineffective without the cooperation and support of the community (Cao, 2011; Gau & Brunson, 2010; Gau, Corsaro, Stewart, & Brunson, 2012; Tyler & Fagan, 2008). In disadvantaged African American neighborhoods, which are often defined by an acrimonious relationship between police and citizens, the extent of public trust in law enforcement also determines levels of citizens’ cooperation (Brunson, 2007; Brunson & Miller, 2006; Tyler, 2005) and may indirectly affect delinquency (Slocum, Wiley, & Esbensen, 2016). Studies also show that negative interpretations of prior interactions with police can shape perceptions of current police behavior in such communities (Brandl, Frank, Worden, & Bynum, 1994; Gau & Brunson,

2010; Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005). For example, White, Mulvey, and Dario (2016) found that African American arrestees were more likely to view the police as less legitimate. The authors also reported that younger men were less likely to cooperate with the police. Another study found a similar relationship with minority youth. African American and Latino youth were significantly more likely to express perceived injustice compared with White youth (Hagan, Payne, & Shedd, 2005).

Notwithstanding these issues among minority residents, procedural justice perceptions remain a strong predictor of police legitimacy perceptions regardless of class, race, and location (Cao, 2011; Gau, 2014; Reisig, Bratton, & Gertz, 2007; Tyler & Wakslak, 2004). In addition, citizens are more likely to obey the law and follow police commands if the police are seen as legitimate (Tyler & Fagan, 2008), and police legitimacy perceptions are generally measured in terms of citizens' trust, confidence, and satisfaction in the police (Gau et al., 2012). The perceived performance of the police is also salient when it comes to community perceptions toward police strategies, a point discussed further in the next section.

POLICE PERFORMANCE

A sizable amount of research is devoted to examining factors that influence perceptions of police performance. Previous studies report known differences in perceptions and identify several factors that may influence public perceptions of police performance. While a complete review of the literature in this area is beyond the scope of the current article, typically these studies focus on factors such as demographics (e.g., age, race, income, and gender), community context (e.g., disorder), contact with the police, and crime rates (Brown & Benedict, 2002; Sampson & Bartusch, 1998; Schafer, Huebner, & Bynum, 2003), as well as general political climate toward the police at any given time, how evidence is presented to the public, suspect's mental health status, respondent's personality factors, case facts, and even official outcomes of a case (Culhane et al., 2016). For example, minority individuals have been found to hold more negative global perceptions of the police (Brandl et al., 1994; Schafer et al., 2003), have less confidence in the police (Cao, 2011), and express less overall satisfaction with police (Reisig & Parks, 2000). In addition, younger individuals have also been found to report more negative attitudes toward the police (Payne & Gainey, 2007; Reisig & Parks, 2000).

Finally, prior research measures police performance using several different terminologies, such as satisfaction with police (Reisig & Parks, 2000), asking if the police are doing a good job (Priest & Carter, 1999), and police effectiveness (Dowler, 2003). This research provides evidence of a complex relationship that seems to exist between citizens' perceptions of police performance and the items that influence the formation of these perceptions.

FEAR OR CONCERN ABOUT CRIME

Prior research commonly examined citizens' fear or concern about crime or safety as a factor explaining perceptions of police. Generally, previous studies supported the idea that citizens' fear or concern about crime influences their thoughts about police performance. Specifically, citizens may indicate that the police are not doing as good of a job if they have increasing concern about crime in their neighborhood. For example, Reisig and Parks

(2000) found that individuals who had higher perceptions of safety in their neighborhood also reported that they were more satisfied with the police. A similar finding was reported by Priest and Carter (1999) who found that as perceptions of neighborhood safety increased, the likelihood of citizens indicating the police were doing a good job also increased. More recently, Corsaro, Frank, and Ozer (2015) found that citizens who reported higher levels of fear expressed more cynicism toward police performance.

Even with slightly different indicators of police performance, the findings have generally been similar. Payne and Gainey (2007) examined attitudes toward police and found that individuals who felt unsafe also had more negative attitudes toward the police. Dowler (2003) reported that fear of crime was significantly related to perceived police effectiveness. In other studies, perceptions of the level of crime in an area have been used as an indicator of fear or concern. Schafer et al. (2003) found that perceptions of the level of crime in one's area were related to several indicators of police performance. Specifically, individuals who perceived there to be higher levels of major crimes (e.g., drug dealing, assault) were less likely to be overall satisfied with the police. These individuals were also less likely to express satisfaction with traditional police services such as response times and ease of contact (Schafer et al., 2003). Reisig and Parks (2000) also measured the perception of neighborhood crime and found that it influenced police satisfaction. It appears that these perceptions of safety, fear, or concern are tied to how citizens feel about the overall performance of police in their area, despite different measures of concern and police performance.

One explanation for this relationship has been provided by Skogan (2009). Skogan asserted that citizens may feel it is the duty of the police to keep their neighborhoods safe, and when they feel they are unsafe, they may blame the police for this perception. This notion that citizens hold the police accountable for making them feel safe, and addressing crime in their neighborhood, is known as the "Accountability Model" (Skogan, 2009). The idea also extends to actual crime in an area, not just residents' perceptions. Residents may look at their area, see disorder and crime, and thus, blame the police (Skogan, 2009). This blame may then transfer to their perceptions of overall police performance. Previous research found support for the idea that the crime rate in an area influences perceptions of police performance (Schafer et al., 2003; Sampson & Bartusch, 1998) and the notion that disorder influences these perceptions (Cao, Frank, & Cullen, 1996; Reisig & Parks, 2000).

It is also important to note the role of demographics in shaping fear of crime and perceptions of crime. A recent meta-analysis summarized this relationship finding gender as the most consistent demographic related to fear of crime (Collins, 2016). Specifically, women expressed more fear of crime than men. Further, non-Whites had consistently higher levels of fear of crime in American studies compared with Whites; a finding that the authors contributed to possibly higher levels of victimization experiences and/or lower trust in authorities such as the police (Collins, 2016). This finding suggests that fear of crime may be influenced by both demographics and other factors which may also influence perceptions of BWCs as an extension of perceptions of the police.

THEORY AND HYPOTHESES

As noted above, there is a lack of prior research on community members' perceptions of BWCs, and there is no theoretical framework directly applicable to explaining those perceptions. As such, we rely on prior research and theory regarding procedural justice,

perceptions of police performance, and fear or concern about crime, as well as information from focus groups with police officers regarding their perceptions of how citizens might feel about BWCs. Specifically, the procedural justice theoretical framework, or process-based model of legitimacy (Tyler, 2003, 2006; Tyler & Huo, 2002), and prior research (Brown & Benedict, 2002; Hinds & Murphy, 2007; Kristina, 2009; Murphy, 2009), provide evidence of strong relationships between procedural justice and perceptions of police performance. Similarly, prior research indicates a relationship between fear of crime and police performance (Dowler, 2003; Priest & Carter, 1999). Prior research also provides evidence that sex, age, race, and personality factors of community members are related to police performance, procedural justice, and fear of crime (Culhane et al., 2016; Ferguson & Mindel, 2007; Tyler, 2005; Tyler & Huo, 2002). Finally, throughout the recent push for greater use of BWCs in policing, police personnel, media commentators, and interest groups have variously expressed concern about potential privacy issues related to BWCs. These concerns relate to both community members' privacy and police officers' privacy.

Taken together, prior research, theory, and recent commentary about BWCs led us to hypothesize that community members' assessment of the potential benefits of BWCs would be affected by race, gender, age, and amount of interaction with the police, as well as concerns about privacy and crime and perceptions of procedural justice and police performance. Specifically, we predicted that respondents who were non-White, male, or younger would perceive greater benefits related to BWCs, although we expected these effects to be indirect. We hypothesized that community members who had more positive perceptions of procedural fairness and police performance would perceive less benefits of BWCs. Recent calls to equip police officers with BWCs have largely stemmed from events viewed by many as examples of police misconduct or use of excessive force. Therefore, it seems likely that community members who perceive that the police are doing a good job will see less need for, and thus less benefit of, BWCs. We also expected that community members who express greater concern about crime would see more potential benefits associated with BWCs. Finally, community members who expressed concern about privacy issues related to BWCs would be less likely to see benefits to the use of the technology.

METHOD

PROCEDURE

Residents of two counties in Florida were surveyed via phone in early 2015, prior to the deployment of BWCs in either county.¹ The survey of Escambia County, Florida, residents took place from January 13 to February 18, 2015. Palm Beach County residents were surveyed from March 17 to May 5, 2015. BWCs had not yet been deployed within either county at the time of the surveys. The phone numbers for each county were selected randomly through the use of ASDE sampling software. Landlines were publicly listed numbers, while cell phone numbers were taken from local cell phone exchanges. In Escambia County, 4,777 numbers were valid phone numbers. Of the 1,935 eligible residents² who answered the phone, 477 agreed to take the survey (24.7% response rate). In Palm Beach County, 8,541 numbers were valid phone numbers. Of the 2,699 eligible residents who answered the phone, 320 agreed to take the survey (11.9% response rate). The overall response rate across the two counties was 17.2%, which resulted in 797 total respondents.³ Missing data resulted in a final sample of 670.⁴

TABLE 1: Sample and County Demographics

Demographic Characteristic	Unweighted sample	Poststratification weighed sample	Escambia and Palm Beach Counties population
% Non-White	22.5	42.2	41.5
% Over 65	48.5	21.5	21.5
% Female	57.8	51.9	51.3
% Police interaction	31.9	37.0	

PARTICIPANTS

Overall, the sample used in the current analysis was 22.5% White, 48.5% over age 65, and 57.8% female. In addition, 31.9% reported interacting with the police “sometimes” or “often.”⁵ U.S. Census population estimates for Escambia County, Florida, and Palm Beach County, Florida, for 2014 were 310,659 and 1,397,710, respectively. The estimated percent of the population in 2014 across both counties identified as non-Hispanic White was 58.5% (41.5% non-White). The estimated percent of persons over age 65 in 2014 across both counties was 21.5%, and it was estimated that 51.3% of the two counties’ population was female. Therefore, the survey data for this study are not demographically representative of the residents of the counties. Respondents were more likely to be White, older, and female compared with the general populations in the counties studied.

In an effort to account for the unrepresentativeness of the sample, all analysis of the data was first conducted with the original sample and then run again using poststratification weighting. Poststratification mitigates the potential bias caused by a nonrepresentative sample (Hahs-Vaughn & Lomax, 2006; Little, 1993; Loosveldt & Sonck, 2008). The poststratification weight used in the current analysis is based on population sex, age, and race and was generated through an iterative solution (i.e., raking; Johnson, 2008). Table 1 provides comparison of the unweighted sample, weighted sample, and U.S. Census population estimates. We report only the analyses completed using the poststratification weighting otherwise.⁶

SURVEY

The survey used for this research was created specifically for this study. The items on BWCs were informed by the limited research on the topic that existed at the time of its creation as well as by data gathered from focus groups of police officers employed by a department considering implementing a BWC program, which provided useful information about officers’ concerns and perceived potential benefits. Survey items addressing procedural fairness, police performance, and crime concern were based on prior literature on these topics. The survey items used for the current study can be found in Figure 1 and Table 2. All respondents were asked the same questions.

The scales used in the structural equation models were constructed based on an exploratory factor analysis followed by confirmatory factor analysis. In addition to the items on perceived benefits and privacy concerns related to BWCs, the survey included multiple questions on respondents’ perceptions of procedural fairness of policing, global police performance, and concern about crime. We initially ran an exploratory factor analysis to examine how each item loaded on five scales based on prior literature and issues related to BWCs that emerged from focus groups with police officers and within media discussions of BWCs.

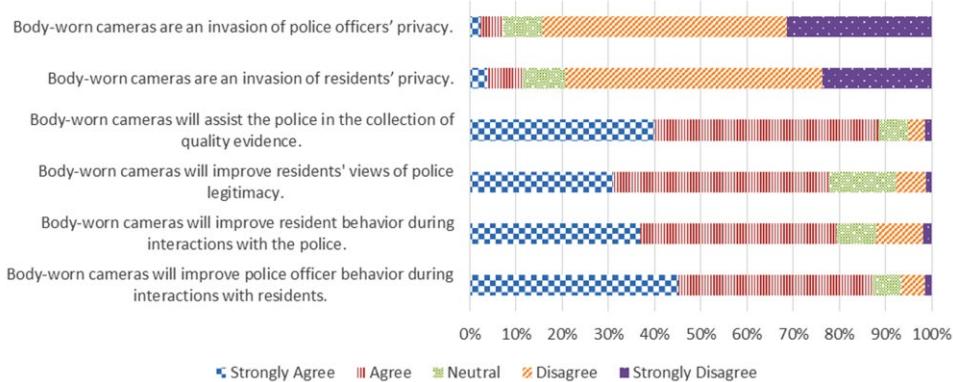


Figure 1: Perceptions of Body-Worn Camera Benefits and Privacy Concerns

We used structural equation modeling (SEM) software (Stata 14.1) to perform confirmatory factor analysis (CFA) for final construction and validation of the measures (Bollen, 1989).

The CFA, also known as the measurement model, provides not only factor loadings but also fit and modification indices, which were used to improve the measurement of the latent constructs (Gau, 2010). The CFA resulted in adjustments to four of the five initial scales. Specifically, the Procedural Fairness Scale was reduced from five to four items; the Police Performance Scale was reduced from eight to four items; the BWC Privacy Concern Scale was reduced from three to two items; and the BWC Benefit Scale was reduced from seven to four items. The means, standard deviations, and factor loadings for all items used to construct the five scales (latent variables) are displayed in Table 2. The factor loadings for all of the indicators were high (above .60) and statistically significant.

SEM in Stata 14.1 produces multiple fit indices, including the comparative fit index (CFI), standardized root mean square residual (SRMR), Tucker–Lewis index (TLI), and root mean square error of approximation (RMSEA), which are commonly reported in criminology and criminal justice research (Gau, 2010).⁷ The fit indices for the current measurement model provide evidence of a sound final measurement model. The CFI for the final measurement model was 0.93. Values of 0.90 represent good fit and values of 0.95 or above are considered very good fit (Gau, 2010; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999). The SRMR for the measurement model is 0.06, which represents acceptable fit (Hu & Bentler, 1999). The TLI for the measurement model is 0.91, which indicates acceptable fit (Hu & Bentler, 1999). The RMSEA for the measurement model is 0.07. RMSEA values less than 0.07 indicate good fit (Steiger, 2007). Taken together, the fit indices and factor loading for the five scales indicate a strong measurement model and provide confidence in the convergent validity of the measures.

RESULTS

PERCEPTIONS OF BWCS

Given the dearth of information on community perceptions of BWCs, coupled with politicians', activists', and media claims that equipping police officers will reap enormous benefits,

TABLE 2: Latent Variables Composition and Descriptive Statistics

Latent variable and item ^a		<i>M</i>	<i>SD</i>	Factor loadings
Procedural fairness				
The police are fair when dealing with people.	3.41	1.06	.86	
Local police officers use only the amount of force necessary to accomplish their tasks.	3.23	1.16	.75	
The police in this city are usually courteous.	3.72	1.05	.83	
Police officers are usually honest.	3.47	.99	.78	
Police performance ^b				
How is the quality of police protection in your community?	3.90	1.00	.80	
How well do the police deal with the problems that really concern people in your neighborhood?	3.62	1.10	.81	
How well do police work with residents to address local crime problems?	3.53	1.06	.75	
How well are the police preventing crime in your neighborhood?	3.70	1.09	.77	
Crime concern				
Crime is a serious problem in my neighborhood.	2.54	1.13	.72	
I feel safe in my neighborhood at night. ^c	2.06	.93	.63	
Body-worn camera privacy concern				
Body-worn cameras are an invasion of residents' privacy.	2.12	.98	.85	
Body-worn cameras are an invasion of police officers' privacy.	1.94	.89	.70	
Body-worn camera benefit				
Body-worn cameras will improve police officer behavior during interactions with residents.	4.24	.89	.74	
Body-worn cameras will improve resident behavior during interactions with the police.	4.03	1.01	.69	
Body-worn cameras will improve residents' views of police legitimacy.	3.99	.91	.80	
Body-worn cameras will assist the police in the collection of quality evidence.	4.22	.84	.73	

^aUnless otherwise noted, all items were measured by 5-point Likert-type responses (1 = *strongly agree*; 2 = *agree*; 3 = *neutral*; 4 = *disagree*; 5 = *strongly disagree*) and then reverse coded, so higher scores equal stronger agreement. ^bResponse categories were: 1 = *very good*; 2 = *good*; 3 = *neutral*; 4 = *poor*; 5 = *very poor*. These items were reverse coded. ^cThis item was not reverse coded.

the survey aimed to gather respondents' perceptions of potential benefits and privacy concerns surrounding BWCs. As displayed in Figure 1, respondents generally reported high levels of agreement that BWCs will be beneficial. Specifically, 87.1% of respondents agreed or strongly agreed that BWCs will improve police officer behavior, while 79.4% agreed or strongly agreed that BWCs will improve residents' behavior. Respondents also registered high levels of agreement that BWCs will improve views of police legitimacy (77.6% agree/strongly agree) and that BWCs will assist in the collection of quality evidence (88.5% agree/strongly agree). Survey respondents were not, however, very concerned about privacy implications surrounding BWCs. Only 11.4% agreed or strongly agreed that BWCs are an invasion of residents' privacy, while only 7.2% agreed or strongly agreed that the cameras are an invasion of officer privacy.

FACTORS AFFECTING PERCEPTIONS OF BWCs

We employed SEM in an effort to improve understanding of not only residents' perceptions of BWCs, but also of factors that may influence those views, including perceptions of procedural fairness, police performance, and concern about crime. After establishing the

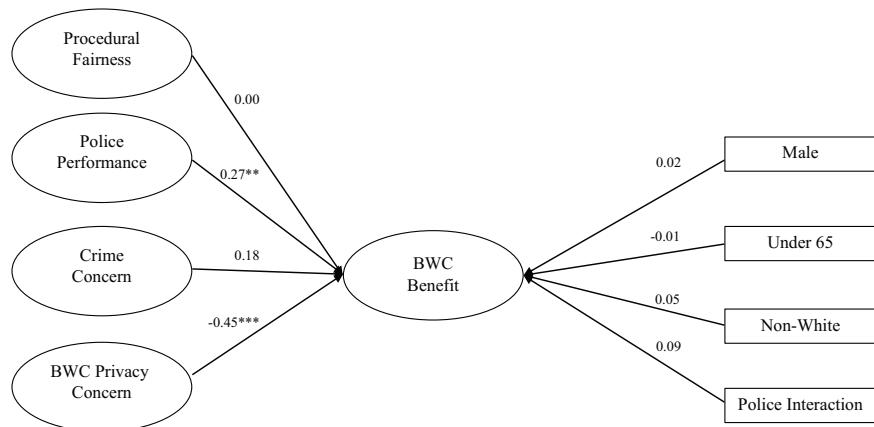
measurement model discussed above, the next phase of the analysis was to test structural equation models. Among the advantages of SEM is not only the opportunity to examine factor loadings and fit indices for latent variables (i.e., the measurement model) but also the ability to model more complex relationships incorporating multiple dependent and/or mediating variables, which more common regression analyses do not permit. Our focus in the current study was to examine the factors that influence community members' perceptions of the potential benefits of BWCs. Traditional regression analysis would have limited our ability to analyze these relationships and would result in a model that looked like the one presented in Figure 2. In this model, the demographic and police interaction variables and four of the scales would be independent variables, while the BWC Benefit scale would be the only dependent variable. This simple model with only direct relationships between the independent and dependent variables serves as the baseline for comparison of our final model examining factors that affect perceptions of BWCs.

The fit indices for this baseline model reveal a poor-fitting model. The SRMR for this model is 0.16, which indicates a poor-fitting model.⁸ The standardized path coefficients for the baseline model indicate only two statistically significant relationships. Perceptions of police performance are positively related to perceived BWC benefits and BWC privacy concerns are negatively associated with perceived BWC benefits. The fit indices and path coefficients for the model in Figure 2 provided evidence of a poor fit for the data and several nonsignificant relationships.

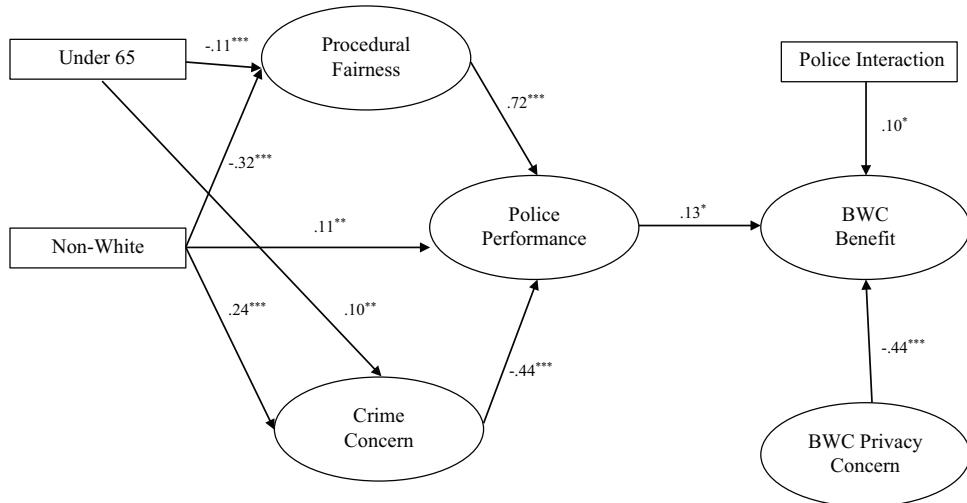
We hypothesized, however, that the relationship between the measures would be more complex. SEM allows the researcher to compare fit indices across different models to assess the relative strength of the models. Gau (2010) recommended testing multiple competing models to determine the best fitting model. The final model presented in Figure 3 is based on prior research, focus groups, and testing competing models for the best overall fit. The results presented are based on the model using the poststratification weighted sample. The SRMR (0.07) for the final model presented in Figure 3 indicates a well-fitting model.⁹

Table 3 presents the unstandardized and standardized regression coefficients and the standard errors and significance levels for both direct and indirect effects for the final model. The standardized path coefficients for the direct relationships between the observed demographic and police interaction variables and the latent perception variables are also presented in Figure 3. The only variables that directly affected respondents' perceptions of BWC benefits were police performance, BWC privacy concerns, and respondents' reported level of interaction with the police. Respondents with favorable views of police performance perceived greater potential benefits related to BWCs. Each standard deviation increase in assessments of police performance resulted in a 0.13 standard deviation increase in perceived benefits of BWCs. Similarly, respondents who reported interacting with the police "sometimes" or "often" also reported greater perceived benefits of BWCs. Community members who expressed more privacy concerns related to BWCs were less likely to perceive benefits of utilizing the technology. A one standard deviation increase in BWC privacy concern was associated with a 0.44 decrease in perception of BWC benefit.

SEM allows us to assess the indirect effects of the variables on our outcome measure of perceived BWC benefit. Perceptions of procedural fairness, race, age, and crime concern all had indirect effects on the perceived benefit of BWCs.¹⁰ Specifically, non-White respondents had more positive perceptions of police performance, less positive perceptions of procedural fairness, and greater concern about crime. Although procedural justice had a positive effect and

**Figure 2: Basic Direct Effects Model of BWC Benefits**

Note. SRMR = 0.155. BWC = body-worn cameras; SRMR = standardized root mean square residual.
 $*p < .05$. $**p < .01$. $***p < .001$.

**Figure 3: Direct and Indirect Effects Model of BWC Benefits**

Note. SRMR = 0.070. BWC = body-worn cameras; SRMR = standardized root mean square residual.
 $*p < .05$. $**p < .01$. $***p < .001$.

crime concern had a negative effect on police performance, which was positively associated with BWC benefit, indirect effect of race on perceptions of BWC benefit was negative. Non-Whites saw less benefit for BWCs. Similarly, younger respondents also reported less positive perceptions of procedural fairness and the total, indirect effect of age on BWC benefit was negative, but small. Younger respondents perceived less benefit for BWCs.

The effects of perceptions of procedural fairness and concern about crime on respondents' perceptions of BWC benefits were mediated by assessments of police performance.

TABLE 3: Direct and Indirect Effects Model of Body-Worn Camera Benefits With Unstandardized and Standardized Coefficients

Path	<i>b</i> (<i>SE</i>)	β	<i>p</i>
Direct effects			
Police Performance → BWC Benefit	0.10 (0.04)	.13	<.050
BWC Priv Concern → BWC Benefit	-0.33 (0.9)	-.44	<.001
Police Interact → BWC Benefit	0.13 (0.06)	.10	<.050
Proc Fairness → Police Performance	0.64 (0.05)	.72	<.001
Crime Concern → Police Performance	-0.60 (0.12)	-.44	<.001
Non-White → Police Performance	0.19 (0.07)	.11	<.010
Under 65 → Proc Fairness	-0.25 (0.07)	-.11	<.001
Non-White → Proc Fairness	-0.59 (0.10)	-.32	<.001
Non-White → Crime Concern	0.28 (0.07)	.24	<.001
Below 65 → Crime Concern	-0.13 (0.05)	-.10	<.010
Indirect effects			
Proc Fairness → BWC Benefit	0.06 (0.01)	.09	<.001
Crime Concern → BWC Benefit	-0.06 (0.01)	-.06	<.001
Below 65 → BWC Benefit	-0.02 (0.01)	-.02	<.050
Non-White → BWC Benefit	-0.04 (0.02)	-.03	<.050
Below 65 → Police Performance	-0.24 (0.06)	-.12	<.001
Non-White → Police Performance	-0.54 (0.09)	-.34	<.001
SRMR	0.070		

Note. BWC = body-worn cameras; Priv = privacy; Proc = procedural; SRMR = standardized root mean square residual.

Perceptions of procedural fairness were positively associated with perceptions of police performance. Each one standard deviation increase in procedural fairness was associated with a 0.72 standard deviation increase in police performance. The indirect effect of procedural fairness on BWC benefit was also positive, with a one standard deviation in procedural fairness associated with a 0.09 standard deviation increase in BWC benefit. Conversely, greater concern about crime was associated with lower perceptions of police performance. A one standard deviation increase in crime concern resulted in a 0.44 standard deviation decrease in assessments of police performance. The indirect effect of crime concern on BWC benefit was also negative. When crime concern goes up one standard deviation, BWC benefit goes down 0.06 standard deviation. Taken together, our findings indicate that the perceptions of BWCs by community members are generally positive, and they are influenced by several factors, both directly and indirectly.

DISCUSSION

Despite the general enthusiasm among many stakeholders for quick and widespread adoption of BWCs, the research literature on the technology is still developing. Although several recent studies have examined the impact of BWCs (Ariel et al., 2015; Jennings et al., 2015; Katz et al., 2014), police officer perceptions (Jennings et al., 2014; Jennings et al., 2015), and law enforcement leadership perceptions (Smykla et al., 2016), research on community member perceptions is still very limited and descriptive (Sousa et al., 2015). The findings presented above provide insight on how community members perceive BWCs and the factors that shape those perceptions.

The results of a random survey of two counties in Florida indicate that public perceptions of BWCs are mostly positive. Community members appear to see several potential benefits of the technology, including improvement in police and resident behavior. The findings also suggest that implementing BWCs will improve views of police legitimacy and will assist the police in collecting quality evidence. Consistent with their positive views of BWCs and likely related to the increasingly normative nature of video surveillance throughout society, the community members expressed relatively little concern regarding potential invasions of privacy for either police officers or citizens related to BWCs. It should be noted, however, that the timing of the surveys may have influenced these views. The surveys were administered in early 2015, when media attention on police violence and claims that BWCs would help reduce these incidents were very high. Furthermore, BWCs had not yet been deployed by any law enforcement agency in either county at the time of the survey. Still, in addition to gauging community perceptions of BWCs, we sought to also gain a better understanding of those views.

A growing body of literature indicates that community views of police legitimacy and police performance are shaped by both procedural justice/fairness and concern about crime, which are, in turn, affected by demographic characteristics (Cao, 2011; Gau, 2014; Reisig & Parks, 2000; Sampson & Bartusch, 1998). Given that recent calls for expanding the use of BWCs are temporally and substantively related to real and perceived abuses of police authority involving the use of force, particularly in minority communities, we expected views of the potential benefits of the technology to be related to issues of procedural justice, police performance, crime concern, and race. Our findings generally supported those expectations, although the relationships are not always straightforward. The use of SEM techniques allowed us to model these relationships.

The basic direct effects model shown in Figure 2 demonstrates that conceptualizing the relationships of community members' perceptions of procedural fairness, police performance, crime concern, and BWC privacy concern with perceptions of potential benefits of BWCs as all direct effects is not consistent with the data. There is also not a direct relationship between demographic variables and perceptions of BWCs. The direct effects model is a poor fit and fails to adequately explain the complex relationships between the variables.

We expected that non-Whites, males, and younger community members would perceive greater benefits of BWCs and that more concern about crime would lead to more positive perceptions of BWCs. The relationship between sex and perceived BWC benefits was not significant. Furthermore, each relationship between the other aforementioned independent variables and perceptions of BWCs was indirect and in the opposite direction than what we expected. In other words, Non-Whites, younger respondents, and those with more concern about crime all perceived less benefit of BWCs. The finding that crime concern had an indirect negative effect on the perception of BWC benefit was contrary to our hypothesis. However, it may be that this is another effect of holding the police accountable. Residents who already think the police are not doing their job well when dealing with crime may think that adding BWCs will not help improve police performance.

We also predicted that more positive assessments of procedural fairness and police performance would be associated with less perceived benefit of BWCs. Our results, however, indicate the opposite. More positive perceptions of procedural fairness are indirectly associated with greater perceived benefits of BWCs. Likewise, community members who believe the police are performing well also see greater benefit of BWCs. Finally, we predicted that

privacy concerns related to BWCs would result in less perceived benefits of the technology, which was supported by the data.

Although most of the observed relationships between the independent and final dependent variable were not in the expected direction, the results are not necessarily surprising. Much of the advocacy for BWCs among the media and civil rights groups has focused on negative encounters between the police and the community, particularly minorities. Individuals who hold unfavorable perceptions toward police may be supportive of BWCs due to the potential of this new technology to expose such negative encounters, along with the reported abuses of police officers that fuel social movements and protests across the country, as evidenced by the Black Lives Matter movement. This advocacy points to the purported ability of BWCs to correct bad behavior by police officers. Under this framework, BWCs would be viewed as more beneficial by those who had more negative views of the police. However, the results of the current analysis point to another framework from which to view community perceptions of BWCs. As stated earlier, respondents with favorable views of police performance perceived that the use of BWCs would potentially yield greater benefits. This unexpected finding may help to increase understanding of supporters of BWCs though they may be different in terms of age and background. It can be assumed that community members who are supportive of the police use of BWCs may be supportive for very different reasons.

Most people hold generally positive views of the police (Lai & Zhao, 2010; Weitzer & Tuch, 2005). This support for the police may translate into positive perceptions of BWCs, not because of the hope that the technology will correct bad police behavior, but because the public believes videos of the police doing their jobs well will exemplify and reinforce positive perceptions of police legitimacy. Therefore, community members who believe the police are doing a good job and treating people fairly are more likely to support BWCs, not as a mechanism to correct bad police behavior, but as a tool to combat negative views of the police that result from the rare bad act caught on cell phone video. Another possible explanation is that the sampled population in the current study may be supportive of BWCs because of the potential for reducing unjustified complaints against the police. In other words, they may be very much aligned with the sentiments and interests of the law enforcement community.

This explanation and the results presented here also highlight the importance of procedural fairness/justice and concern/fear of crime. Non-White and younger respondents were less likely to have positive views of police performance and ultimately less likely to perceive benefits of BWCs, but the impact of race and age was mediated by procedural fairness and crime concern. These results concerning race and perceptions toward policing can be supported by the literature on procedural justice, particularly in communities of color, which suggests that procedural fairness perceptions may provide a stronger explanation for attitudes toward police authority than race, age, and other contextual factors (Tyler, 2003; Tyler & Wakslak, 2004).

Overall, our findings on concern for crime and police performance were in line with previous research. Respondents who expressed more concern for crime in their area also reported that they had less favorable views of police performance. This supports Skogan's (2009) accountability model. It appears that these individuals' may be holding the police responsible for crime in their area that may translate into their perceptions of overall police performance. The findings on procedural justice may also be related to this idea; citizens

who perceived higher levels of procedural justice also had more positive views of police performance and saw more benefits for BWCs. This suggests that citizens may also attribute positive outcomes to the police when they hold more favorable perceptions toward them.

CONCLUSION, LIMITATIONS, AND DIRECTIONS FOR FUTURE RESEARCH

While the current study provides important contributions to the area of BWC research, it is not without its limitations. First, the overall response rate across the two counties was 17%. While this is low and is certainly a limitation, it is not uncommon among telephone surveys and is reflective of declining response rates for such surveys (Curtin, Presser, & Singer, 2005; Greenberg & Weiner, 2014). Second, the sample demographics for participants were not representative of the residents of the counties' population. Respondents were more likely to be White, older, and female compared with the general populations. Our use of poststratification weighting, however, mitigates the impact of the unrepresentative sample.¹¹ Furthermore, only respondents from two counties were included in the current data. Future research examining diverse populations using larger samples across the United States is needed to fully understand community perceptions of BWCs and influences on these perceptions.

Another possibility for future research is to compare perceptions of BWCs over time. Participants in the present study were asked about their current views of BWCs and this cross-sectional data cannot take into account that these perceptions may change over time. Factors such as the actual implementation of BWCs in an area, media coverage, and encounters with police who have a BWC could dramatically alter a citizen's perceptions. Collecting data longitudinally can provide insight into which influences may be most important in shaping or changing perceptions.

BWCs have gained a large amount of attention over the past 12 months. Calls from the media and public for all police to adopt BWCs have become commonplace. However, research on the actual benefits—or lack thereof—has been slower to develop. The current study examined the factors that influence citizens' perceptions of the benefits of BWCs. Our results suggest that these perceptions are influenced by multiple factors, both directly and indirectly. Overall, citizens were in favor of BWCs, and BWC benefit was directly influenced by perceptions of police performance, privacy, and police interactions. BWC benefit was indirectly influenced by several factors, including demographic characteristics, concern for crime, and procedural fairness. Continued research in the area of BWCs is needed to fully unpack these relationships and provide insight into this important issue.

NOTES

1. Surveys were administered by the Haas Center (<http://www.haas.uwf.edu/>) utilizing trained callers. The average length of completed surveys was 7.95 min. No incentives were offered to respondents.

2. Subjects were eligible to complete the survey if they were 18 or older and a current resident of the target county.

3. Although the response rate is low, it is not inconsistent with recent trends in low response rates for telephone surveys (Curtin, Presser, & Singer, 2005; Greenberg & Weiner, 2014).

4. All structural equation modeling (SEM) analyses discussed below were also run with the full sample of 797 using full information maximum likelihood estimation for missing data. Substantive results, including model fit indices and path coefficients, were very similar to those reported here.

5. Of those who reported interacting with the police "sometimes" or "often," 77.1% reported their interactions as "positive" or "very positive."

6. SEM factor loadings, path coefficients, and standard errors differed slightly between the unweighted and weighted analyses; however, the direction and statistical significance of relationships remained consistent across unweighted and weighted models, with the exception of the effect of sex in the full structural SEM model. Specifically, sex had a significant negative relationship with crime concern in the unweighted analysis, but was not significantly related to any endogenous variables in the weighted analysis. Results of the unweighted models are available from the first author upon request.

7. Stata 14.1, however, generates only the standardized root mean square residual (SRMR) when weights are utilized. Therefore, the measurement model was generated using the unweighted data to compare multiple fit indices. The factor loadings, standard errors, and significance level of all factors were similar for the unweighted and weighted measurement models. Similarly, the SRMR for the weighted measurement model was 0.06, nearly identical to the SRMR for the unweighted model.

8. Likewise, the fit indices for the unweighted baseline model also demonstrated a poor-fitting model (SRMR = 0.15; comparative fit index [CFI] = 0.82; Tucker-Lewis index [TLI] = 0.79; root mean square error of approximation [RMSEA] = 0.09).

9. Similarly, the fit indices for the unweighted model indicate a well-fitting model: SRMR = 0.07; CFI = 0.91; TLI = 0.90; RMSEA = 0.07.

10. Indirect effects are not displayed in Figure 3, but are shown in Table 3.

11. It is interesting to note, however, that the substantive relationships were consistent for the unweighted and weighted analyses.

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