

Do Body Cameras Affect the Quality of Victim-Police Interactions in Field Interviews?



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ABSTRACT

In the past few years, numerous police departments nationwide have deployed body-worn cameras. Controversial deaths of unarmed suspects in have spurred rapid adoption of this relatively new technology. A number of studies now have suggested that body cameras may have significant impacts on officer use of force and on citizen complaints against the police (see Lum, et al., 2015).

These studies notwithstanding, there are many issues yet to be addressed for an intelligent assessment of the technology to occur. Among the most important of these is how the use of body cameras affects how victims and witnesses interact with police officers who are wearing cameras. Lum et al. defined studies examining the effect of cameras on citizen willingness to cooperate with the police as one of five priority areas for research. The hope for body cameras is that they will increase public trust and confidence in the police. However, it is also possible that citizens who file crime or nuisance complaints may feel reticent about having a video record of their conversation with police officers. Noting that there are significant privacy concerns associated with videotaping crime victims, body camera guidelines contained in a 2014 PERF report argue that “officers should be required to obtain consent prior to recording interviews with crime victims” (p.41). Nonetheless, many agencies require officers to record interviews with victims and witnesses unless citizens explicitly request that the cameras be turned off, or even to record contrary to citizen requests not to record.

Using a true experimental design, the study we conducted examined the quality of information provided to the police by victims and witnesses under three conditions: (1) officer does not have a body camera, (b) officer with a body camera requests permission to record interview, and (c) officer with a body camera notifies victim or witness that they are being recorded, and switches camera off only if explicitly requested to do so by the citizen. It was our hope that results of the study would provide empirical data to inform law enforcement policy on how officers wearing body cameras should approach victims.

Consistent with some previous research, we did not find differences between any of these conditions in victim ratings of their interaction with a police officer. Our field test was based on the assumption that people would notice and react to police body cameras. That assumption proved to be largely wrong. Only a small minority of victims surveyed believed that the officer they spoke with was wearing a body camera, and the percentage that did notice was consistent across treatments: That is, *victims in both of the body camera conditions were no more likely than victims in the no camera control condition to report that the officer they spoke with was wearing a body camera.* Extensive observational data documented that, in 98% of the interactions observed in which officers wore cameras, victims did not visibly react to being recorded, even when being told that they were being filmed. No victim objected to being recorded in the 321 incidents that researchers observed. *Further, our survey data analysis determined that, even when victims were aware of officers wearing body cameras, there was no*

change in how they rated their interactions with the officer.

Thus, the major finding in our study is that most victims do not notice body cameras and when they do notice, they do not object to being recorded. Our findings support a body camera policy which does not require that victims give consent to having body cameras on. Rather, officers should be given a degree of discretion to discontinue recording in sensitive situations, or situations in which victims strongly object, as long as they record the reason for deactivating the recording. Our results suggest that officers will have to use such discretion only infrequently.

INTRODUCTION

Along with the deployment of cameras, a body of research has quickly accumulated on the benefits and limitations of body-worn cameras, as well as on policies governing their use and their effect on public opinion of the police (Lum, et. al., 2019). Proponents of police body cameras have cited numerous benefits associated with wearing the cameras. Perhaps the most obvious benefit is simply having a video recording from the officer's perspective. This allows police to capture an incident in its entirety rather than having to rely on video from bystanders, which often only captures the use of force and, thus, portrays the police in a negative light (Ferrell, 2013). Additionally, body cameras are touted for increasing professionalism and transparency (Crow et al., 2017; White, 2014; PERF, 2014), and they are widely supported as a means for improving police officer accountability (Stanley, 2013; Johnson, 2014; Repard, 2014). For example, Harris (2010) argued that body cameras would decrease the number of unconstitutional searches and seizures conducted by the police. Body camera video can also serve as a valuable training tool for police officers, a point particularly emphasized by the UK Home Office (White, 2014).

Perhaps the most important benefit of deploying body-worn cameras is the potential "civilizing effect" these cameras may have on the behavior of both officers and citizens (Crow et al., 2017; White, 2014, p.6). In other words, the knowledge that an incident is recorded and may be reviewed may improve the behavior of both officers and citizens (Ariel et al., 2014). Body cameras may "both deter the police officer from reacting with excessive or unnecessary force and cool down the 'aggressive demeanor' of the suspect" (Ariel et al., 2014, p.9). This hypothesis has thus far been supported in field studies. The most common measures of behavior in police-citizen interactions are citizen complaints and use of force. The review of body camera research by Lum, et. al. (2019) based on 22 studies concludes that the evidence suggests that cameras reduce the number of citizen complaints. For example, PERF (2017) conducted a

randomized trial in Arlington, Texas which found that officers trained in BWCs experienced a 38% drop in complaints between the year prior to the study and the same six months a year later. Lum et. al. are not as positive about the effect of body cameras on use of force, where the findings of 16 studies are fairly evenly split on whether body cameras are associated with less officer use of force.

There is some evidence that, to the extent that body cameras do have a “civilizing effect,” the effect may be both on officers and on civilians they interact with. White (2014) reported that 77% of officers surveyed in Mesa, AZ believed the cameras would cause officers to behave more professionally. But he also reported that, in Aberdeen, Scotland, in 62 assaults on police officers, only one was committed against an officer with a body camera, a proportion much lower than expected by chance.

Proponents of body-worn cameras also advocate for the evidentiary benefits of the cameras. In *Scott v. Harris*, the U.S. Supreme Court ruled that video evidence is more reliable than eyewitness testimony (Ferrell, 2013), so it follows that video collected from body-worn cameras has a special status in court proceedings. Indeed, prosecutors report that video evidence can be the deciding factor in whether to prosecute (LaVigne et al., 2011), can increase the probability of conviction, and can increase “the number of guilty pleas prior to going to trial” (IACP, 2003 as cited in Ferrell, 2013, p.16). This is some evidence from a study in Renfrewshire, Scotland, which suggests that cases involving a police officer with a body camera are less likely to go to trial compared to other court cases (ODS Consulting, 2011). The Lum et. al. review makes clear, however, that, while studies to date suggest an effect of body cameras on the likelihood of court filings and convictions, the weak research designs do not allow the drawing of firm conclusions.

There is some evidence that body camera recordings may be beneficial to officers when it comes to defending against citizen complaints. It has been suggested that recordings may lead to quicker resolution of complaints against officers (Goodall, 2007; ODS Consulting, 2011), discourage the filing of unfounded complaints (PERF, 2014), and exonerate officers of wrongdoing (Weiner, 2013; O’Mara, 2014). Again, more research is needed to verify these claims.

Concerns about Body-Worn Cameras

Despite the many potential benefits of body-worn cameras, there are a number of concerns associated with their use. One significant concern is that equipping police officers with body-worn cameras greatly increases the amount of electronic surveillance of the population since cameras worn by officers responding to calls for service capture not only images of suspects and victims, but also bystanders (Ariel et al., 2014). As facial recognition software becomes ever more accurate, police agencies will be in possession of a tool for running checks on images of citizens much as they now utilize license plate readers (Alexander, 2014).

Concerns have been expressed that body cameras may reduce officer productivity. Evidence from a study in Victoria, Canada reported that officers spent more time completing paperwork where video evidence was included (Victoria Police Department, 2010). However, other field research has found either no change in productivity (Todak and Gaub, 2018; Peterson, et. al., 2018) or mixed results (Ready & Young, 2015).

Another concern about body cameras is the cost. Price per camera ranges from \$120-\$2,000, with the average cost between \$800 and \$1,200, and larger agencies often dedicate administrative staff to body camera programs. Data storage costs can reach into the millions of dollars, depending on the number of cameras deployed and departmental policies regarding data storage (PERF, 2014). Other back-end costs, such as tagging video footage, preparing video footage for use as evidence in court cases, and reviewing and redacting footage in response to Freedom of Information Act (FOIA) requests can also be substantial (Lum et al. 2015).

Body Cameras and Victim and Witness Privacy

One of the the most prominent concern about body cameras is the potential for invasion of privacy (Urban Institute, 2018; Capps, 2015). By the nature of their design, body-worn cameras are able to film inside private homes and capture highly sensitive situations (PERF, 2014; Alexander, 2014). This means that body cameras are far more intrusive than police car video recorders, which can only capture events and people in public settings. Body cameras may capture victims and their families in states of distress, inebriation, confusion, or even undress – embarrassing situations that few people would want to share with the public (Friedersdorf, 2015). With the introduction of body cameras, it becomes difficult to protect the privacy rights of victims and witnesses if they do not have the opportunity to determine what is recorded, what may be released to the defense, or may become public (Tibbetts Murphy, 2015).

Police body cameras in victims' homes may capture not just an interview with an individual, but ambient activity in the home at the time (White, 2014; Alexander, 2014). Cameras may inadvertently capture confidential conversations between victims and victim advocates, or medical staff on the scene. They may capture images or audio recording of children or others present in the home who are not involved in the criminal incident.

Body camera records of victim accounts of an incident can be used later to harm victims in a variety of ways. In many states, camera recordings are subject to FOIA requests; news media may acquire and publish images that may be embarrassing to victims and their families. In fact, at the February 24, 2016 International Association of Chiefs of Police (IACP) / Office on Violence Against Women (VW) National Forum on Body Worn Cameras and Violence Against Women Impact, it was noted that several police agencies have a policy of making available all body camera recordings on their websites, with faces blurred out.

When an arrest is made and a court case ensues, prosecutors must make available at least some relevant body camera footage to defense attorneys and their clients. Viewing footage of the

victim's interview with the police, with all of the attending emotions, may inflame offenders in domestic abuse cases far more than seeing the victim's statement in print on a police report. Further, when victims are in a state of trauma following a crime, their narratives may be confused, non-linear, and sometimes contradictory (Strand, 2012). Defense attorneys may be able to challenge victims' testimony in court using their statements from video footage more effectively than they would have been able to do from victim statements in paper police reports.

Finally, for victims of domestic violence especially, body camera recordings can be used in a coercive way by district attorneys bent on conducting "evidence-based" or "victimless" prosecutions in instances when victims have a change of heart about cooperating in the prosecution of their spouse or intimate partner. At the IACP/OVW conference referenced above, several attendees noted that prosecutors in their jurisdictions had used – even as a matter of policy – body camera footage in lieu of victim testimony when victims recanted or refused to testify. An even worse outcome from victims' perspectives is that body camera footage of children in a violent home could be used by prosecutors to coerce victims to testify against spouses under threat of requesting that child protective services take custody of the children.

For all of these reasons, there are serious concerns whether filming interviews with victims and witnesses – especially inside of private homes -- may make them less willing to talk to the police (White, 2014; Alexander, 2014; Volz, 2014; Harris, 2010), and may exacerbate the emotional trauma felt by some victims (Alexander, 2014), particularly victims of rape and abuse (PERF, 2014). This potential for abuse, combined with the unprecedented invasion of privacy (Brunt, 2014), underscores the need for a serious investment in evidence-based policy development governing the recording procedures for body-worn cameras, especially as they relate to recording interviews with victims and witnesses (ManTech, 2012).

Both the Police Executive Research Forum (PERF) and the IACP have developed model policies for use of police body cameras. The PERF policy argues against recording all encounters with the public, stating that such a policy could undermine privacy rights and damage the openness between police and the community. With respect to victims and witnesses, "officers should be required to obtain consent prior to recording interviews with crime victims" (PERF, p.41). PERF's rationale behind this recommendation is that such a policy would be the best way to balance the significant privacy concerns associated with video recording crime victims with the need for accurate documentation. The PERF policy recommendations also state "officers should have the discretion to keep their cameras turned off during conversations with crime witnesses and members of the community who wish to report or discuss criminal activity in their neighborhood" (p.41).

In contrast to the PERF model policy, the IACP model policy does not require that victims give consent to having body cameras on. Rather, it states that officers should be given a degree of discretion to discontinue recording in sensitive situations, such as when talking to a sexual assault victim or at the scene of a particularly violent crime or accident, as long as they

record the reason for deactivating the recording (IACP, 2014).

According to PERF, many police departments in one-party consent states do not require officers to inform the public that they are being recorded (PERF, 2014). The PERF report indicates that many law enforcement agencies have “taken the position that officers have the right to record inside a private home, as long as they have a legal right to be there”, such as with a search warrant, following consent from the resident, or responding to a call for service (p.15). Surprisingly, in a survey conducted by PERF, nearly one-third of law enforcement agencies that reported using body-worn cameras did not have a written policy in place to govern their use (PERF, 2014).

Because of all of the concerns mentioned above, victims and witnesses may feel inhibited in providing information to officers wearing body cameras. In an ethnographic study, observed officer-citizen interactions became more “constrained and scripted” and “stilted and artificial” (Rowe, Pearson & Turner, 2018). So there are real questions as to how citizens will react during encounters with officers wearing body cameras. Will they perceive officers wearing body cameras more positively because they believe that the cameras will hold officers to a higher standard of behavior and accountability? Or, as Rowe et. al. suggested, will the presence of cameras inhibit victims and make them more reluctant to talk freely with officers?

A recent PERF (2017) study provided some evidence that bears on these questions. In a randomized trial, the researchers compared citizen perceptions of routine encounters with police officers who did and who did not wear body cameras. Specifically, the citizens were asked about their perceptions of significantly better perceptions of police legitimacy, satisfaction with their interactions, and views of police professionalism. The PERF researchers did not find a difference in citizen perceptions between camera and no-camera conditions, although the study was flawed by a very low survey response rate.

Another randomized study by the Urban Institute also looked at the issue of how citizens respond to officers wearing body cameras. McClure, et. al. (2017) compared citizen perceptions of encounters with police officers in three conditions: officer did not wear a body camera, officer wore a body camera, and officer wore a body camera and announced to the citizen that their conversation was being recorded. A subsequent survey asked citizens to rate their perceptions of the interaction on 15 questions in the domains of officer empathy, quality of decision making, quality of treatment, and officer-provided information. The researchers found that survey respondents in both of the camera conditions rated the interaction with the officer more highly than respondents in the no camera condition on two of the measures; however, there were no significant differences on the other 13 measures. While the two differences reported were statistically significant, they were small effects.

A very recent quasi-experiment in Turkey found that just the presence of body cameras with an announcement that citizens in traffic stops were being recorded had a strong effect on

how they perceived the encounter. Demir, et. al. (2018) reported that, compared to a condition where officers did not wear cameras, citizens stopped by officers wearing cameras reported enhanced perceptions of procedural justice during the encounter and enhanced perceptions of the legitimacy of the police.

The Current Study

With contradictory results from the few studies conducted so far, it remains unclear how victims respond to interactions with officers who wear body cameras. Do they feel a greater sense of security because officers are being held to a higher standard of accountability? Or are they likely to feel inhibited by the presence of the camera, realizing that what is captured on film becomes a permanent record that may be used in ways they have no control over by prosecutors, defense attorneys, or local news services?

We worked with the Prince Georges County (MD) Police Department to design a study that asked both crime victims and officers to rate encounters under three conditions: Officer did not wear a body camera; officer wore a body camera and announced to the victim that he or she was being recorded; and officer wore a camera and turned on the camera only if the victim did not object to being recorded. Measures included victim comfort level in talking to officer, victim perceptions of treatment by the officer, and victim satisfaction with the encounter.

RESEARCH METHODS

Design

Experimental Treatments

We planned to implement the field test with three conditions. In the first condition (Standard Protocol) officers would follow standard departmental protocol on body camera use. That is, they would have cameras turned on when approaching victims and witnesses. Officers would activate their BWC when dispatched to a call and notify victims and witnesses that they were being recorded when practical. Officers were not required to initiate or cease recording solely at the demand of the citizen. In the second condition (Alternate Protocol) officers would not activate their device when dispatched, but rather would wait until arriving on the scene. In this condition officers, using a short standard script, would be instructed to notify victims and witnesses that they were being recorded, and not record if the citizen objected. Officers in each of the first two conditions were trained on their particular protocol when they were on use of the cameras. In the final condition, officers would not be issued cameras (control condition).

Randomization

It was not feasible to randomize by patrol officer because multiple officers from a squad respond to calls for service. Inevitably, officers from different conditions would be on the scene together, muddying the experimental assignments. So, our best option was to randomize by geographical area. Fourteen squads participated in the field test. The study took two matched

squads each containing ten officers from each of PGPD's seven police districts and randomly assigned one member of each pair to a body camera condition and the other to a no camera control. Each squad of the matched pair patrols the same geographic territory over shifts that vary weekly so that each squad covers all shifts eventually (more on this below).

As stated above, the prevailing PGPD policy for the seven squads with body cameras was to have cameras running unannounced when interviewing victims and witnesses. For three randomly selected squads of the seven with cameras, officers were retrained under experimental directions stating that officers must announce to victims and witnesses that they were being recorded and to turn off the camera if requested.

The design is a quasi-randomization since we did not actually randomize the squad assigned to any shift or day (that would not be possible for a department to do). But rather, we think that the sequencing of these units is essentially random. The choice of squad to be assigned as experimental and control was random, and then we "seeded" or selected their first shift (that determines the rotations) randomly. Since the squads are matched and the shift rotations are systematic and symmetrical, we believe that there is a good argument to be made that the design minimized any potential treatment biases (see Appendix A for a power analysis).

Measures

The primary outcome measure that we used to assess the impact of the three experimental treatments was victim ratings of the interaction with the officer. Other measures that we included were officer ratings of the interaction and ratings of research observers who rode along with officers.

Survey measure of victim/witness evaluations of the interaction

We patterned the survey items after a set of contact surveys used in earlier work on developing standardized police performance measures (Davis, et al. 2015). Two of the questions are drawn from that survey. The others are, of necessity, developed specially for this work to elicit victim feelings about comfort about being recorded.

Items included:

- I felt comfortable talking to the officer
- I felt able to talk freely about the incident
- I was able to relate my story in detail
- I felt the officer treated me with respect
- I am satisfied with the way the officer handled the situation
- Do you know if the officer was recording you during this encounter

Response options for each of the first five items ranged from strongly agree to strongly

disagree on a five-point scale. Response options for the final item included “yes”, “no”, and “not sure.”

Survey measure of officer evaluations of the interaction

We created a set of questions for officers to assess their impressions of the victim’s level of comfort and cooperativeness while being interviewed by police officer. Items included:

- Was the citizen compliant and cooperative?
- Did the citizen appear reluctant to talk?
- Was the citizen forthcoming?
- Did the citizen appear uncomfortable?
- Was the citizen truthful?

As with the victim survey, responses were recorded on a five-point scale ranging from extremely to not at all.

Observations

An observation form was created for research assistants to complete during ride-alongs with patrol officers. The form recorded the use of body cameras at all service calls; officer announcements about recording when approaching citizens; and victim and witness demeanor during police interactions.

Procedures

In the late summer of 2018, PGPD began to send research staff weekly activity logs of officers in the squads participating in the experiment. The weekly list included each officer’s experimental group, name, offense type, victim name, victim phone number, victim age, and victim gender. The lists were received, they were then processed and became the basis for a dual survey methodology. First, citizens were invited to answer the survey via text message (sms) using Qualtrics to distribute the survey. Then unresponsive participants were contacted by phone by interviewers from the Schaeffer Center, professional survey organization. Officers from the same weekly list were invited via email to answer a separate survey regarding their interactions with victims on the weekly lists.

Victim surveys

Victims were sampled from the same cases used in the officer surveys above – that is from the most recent contact that each officer participating in the study. Victims received multiple survey invitations twice via SMS the within the week of police contact and up to three phone outreach attempts starting two weeks after police contact. The victim SMS survey was sent to mobile phones during evening hours twice during the week, with 48-hour spacing. Victims not responding to the SMS survey request were then contacted by telephone by staff of

the Schaeffer Center. Schaeffer Center staff made up to three attempts to reach victims, with calls spread out between weekdays, weekday evenings, and Saturdays.

Officer surveys

For each officer participating in the study, we sampled one incident involving a victim or witness interview from the weekly activity logs forwarded by PGPD. Email invitations to participate in a brief survey about the interaction were sent approximately one week after receiving the list. Each officer received a personalized email link so that we could track who responded and their respective experimental group. The survey invitation contained the corresponding case number, date, offense type, and the victim's name.

Observations

Beginning in August 2018, we sent two research assistants to conduct 32 ride-alongs with the Prince George's County Police Department, throughout the department's seven districts. Prior to the ride-alongs, each research assistant completed a two-hour training on observer-participant studies and note taking, which could be done on their phones or notepads. Training included how to build rapport with officers, appropriate times to ask questions, and how to write brief notes for longer narratives. All ride-alongs were conducted during the department's second shift (between 3:30pm and 11:30pm) when the department receives the most calls for service. The observations were limited to the squads that had been issued body cameras.

The original purpose of the observations was to check on fidelity of the intervention: Were cameras being turned on during interviews with victims and witnesses as the study began. However, while officer compliance was very high in turning on their body cameras, it was much lower when it came to officers in the Alternate Protocol advising victims that their interaction was being recorded (see below). Therefore, we decided to continue the observations throughout the course of the intake period. Moreover, we quickly realized that the observations would form an additional window into officer-citizen interactions and what officers thought of wearing body cameras.

The observations resulted in records of 321 police-citizen interactions over 32 shifts. Among these observations, there were 57 different incident types. For analysis, these were collapsed into five categories: violent crimes, non-violent crimes, traffic stops, suspect interactions (e.g. interactions primarily with persons suspected of wrongdoing such as open warrants, open containers, suspicious person calls, etc.), and other interactions (i.e. service calls regarding disputes, child custody, residential alarms, etc.). These were further collapsed into two groups: victim interactions and suspect interactions. In addition, if the officer was first to arrive on scene, they were noted as the primary responder. For purposes of testing adherence to study protocols, only interactions involving victims or witnesses and incidents in which the subject officer was first on the scene were included in the analyses.

RESULTS

Response Rates

Victim Surveys

Over the six-month period, the victim survey averaged approximately 3 responses per week, resulting in about a 13% response rate (n=155). Forty-eight hours after the second SMS invitation was sent, the responsive participants were removed from the weekly list. Those remaining on the list and those without cell phones listed on the police log were then contacted by Schaeffer Center interviewers by phone to answer the same questions as the SMS survey. The Schaeffer Center attempts resulted in a 28% response rate (n=301). Combining the two sets of respondents (SMS and phone), the survey produced an unexpectedly high overall response rate of 37% (451 completes out of 1,237 victim attempts. In comparison, the victim survey response rates reported in the similar studies conducted by PERF (2017) (15%) and the Urban Institute (18%) using telephone only were less than half of what this study achieved using the dual modalities.

Officer Surveys

Over the six-month period, a total of 947 invitations were sent to officers, which yielded about a 13% response rate (n=118). The low response rate was immediately apparent, and we took several steps to work with PGPD to try to increase it. As a result, PGPD sergeants twice spoke with officers about completing the surveys. Our efforts may have increased it a few percentage points, but it remained low throughout the study. As stated above, the officer surveys were of lesser concern to us than the victim surveys as an outcome measure.

Observance of Study Protocols

Officer compliance with activating body cameras was quite good: Officers activated their body cameras in 85% of the interactions with victims and witnesses in which they were the first on the scene. In the Alternate Protocol, we observed that one in four victims received notification that the interaction was being audibly and visually recorded by a body camera. The low observance of study protocol was relayed to the PGPD leadership, and twice officers in the Alternate Protocol squads were reminded by their sergeants to use the appropriate script requesting victim approval to record. In no instances did observers note that victims in the Standard Protocol condition received notice from the officer that the interaction was being recorded.

Victim Survey Results

Table 1 displays the means and standard deviations for victim ratings of their interaction with a patrol officer. Ratings on each of the items for all of the groups were quite high, averaging over 4 on a scale of 1-5. While the highest ratings on each item were in the Alternate Protocol, none of the differences between means approached statistical significance when comparing either the three conditions or when comparing the combined body camera conditions

with the control condition.

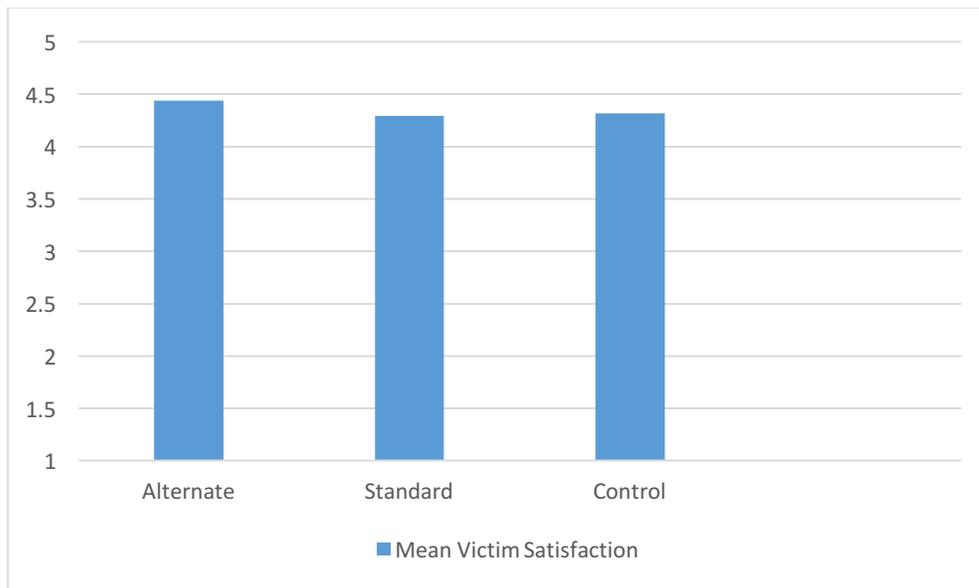
Table 1: Victim Ratings of Interactions with Patrol Officers by Experimental Treatment

Alternate Protocol		Comfortable talking to officer?	Able to talk freely?	Able to relate your story?	Treated with respect?	Satisfied with encounter?
Control (N=182)	Mean (sd)	4.47 (1.14)	4.43 (1.18)	4.25 (1.31)	4.46 (1.14)	3.99 (1.46)
Standard Protocol (N=131)	Mean (sd)	4.27 (1.31)	4.41 (1.23)	4.40 (1.23)	4.35 (1.24)	4.07 (1.40)
Alternate Protocol (N=132)	Mean (sd)	4.52 (1.07)	4.48 (1.16)	4.47 (1.04)	4.52 (1.06)	4.22 (1.33)

To further investigate possible differences between the standard and experimental conditions, we attempted to combine the victim ratings on the five individual items into a composite measure. In order to determine whether it was reasonable to assume an underlying construct and combine the items, we calculated Cronbach’s alpha, a measure of internal consistency. We obtained an alpha of 0.92 (possible values of alpha range from 0 to 1) indicating that the items were strongly intercorrelated. We therefore created a composite rating by computing an average score for the five items.

Average ratings for the three observed groups are displayed in Figure 1 below. As with the individual items, inter-group differences were slight. Again, on a scale of 1 to 5, composite ratings for each of the three groups were high, running between 4.3 and 4.5.

Figure 1: Composite Victim Ratings of Interaction with Police Officer



We ran an ANOVA tests on the composite victim ratings, one version comparing the three observed conditions and the other comparing the Standard Protocol and Alternate Protocol combined with the control condition. Both tests included victim gender, type of crime (Part I offense versus others), and survey mode (sms versus phone) as factors and age as a covariate. Results are presented in Appendix B.

In neither analysis did the treatment variable approach statistical significance. The only significant effect in either analysis was survey mode: Those victims who completed a survey via sms had higher ratings than victims who completed surveys by phone. It was also true that those persons who completed the survey via sms were significantly older than victims who completed surveys on the phone (mean age for sms was 46 years compared to 41 years for phone; $F[1,418] = 10.96, p < .01$). This came as a surprise: We had expected that the sms mode would capture younger victims.

The final item in the victim survey asked whether victims were aware of that the officer they interacted with was wearing a body camera. Just 10% of the Standard Protocol group and 9% of the Alternate Protocol responded affirmatively: The remainder either did not notice or believed the officer was not wearing a body camera. Surprisingly, those percentages were identical to the percentage of victims in the control group (9%) who (mistakenly) believed that the officer they interacted with was wearing a camera. Essentially, this says that victims did not notice the body cameras.

We did one further analysis to determine whether the small percentage of victims who noticed that officers were wearing cameras rated the encounter differently than victims who were unaware of the body camera. We compared ratings of the encounter between victims who believed

that officers were wearing body cameras and those who did not think the officer wore a camera or were unsure. We found no difference in ratings of the encounter between these two groups ($t [412] = 0.59, n.s.$).

Observational Data on Victim Reactions to Being Recorded

The finding from the victim survey that the body cameras went unnoticed tallies with what our researchers conducting ride-alongs observed. According to our observers, in 98% of the interactions in the Alternate Protocol condition, victims did not visibly react to being recorded, even when being told that they were being filmed. In the Standard Protocol condition, none of the victims visibly reacted to the body camera and observers believed that the vast majority of victims were not aware they were being recorded. No victim in either condition objected to the use of the body camera.

Officer Survey Results

As mentioned, the completion rate for the officer survey was just 13%, yielding 118 completed surveys. Officers rated five aspects of victim demeanor on a 5-point Likert scale. Items included whether victims were compliant and cooperative, whether they appeared reluctant to speak with officers, whether they were forthcoming, and whether they appeared uncomfortable. Table 2 below displays the results.

Officers in general rated the quality of the interaction lower than victims. Officers were positive when rating victims on being compliant, forthcoming, and truthful. However, their ratings of victim willingness to talk and victim comfort level were much less positive. There were no clear patterns in responses according to treatment group and no inter-group differences approached statistical significance. Given the small number of completed officer surveys and lack of differences between groups on the individual items, we did not explore creating a composite officer rating of the interaction and analysis using control variables.

Table 2: Officer Ratings of Interactions with Victims by Experimental Treatment

		Victim compliant?	Victim willing to talk?	Victim forthcoming?	Victim appear comfortable?	Victim appear truthful?
Alternate Protocol	Mean (sd)	4.14 (0.99)	1.59 (1.09)	4.21 (0.86)	1.48 (0.87)	3.81 (1.24)
Control (N=29)						
Standard Protocol (N=58)	Mean (sd)	3.89(1.01)	1.79 (1.14)	3.84 (0.95)	1.97 (1.26)	3.84 (0.99)
Alternate Protocol (N=20)	Mean (sd)	4.35 (0.81)	1.55 (1.00)	4.05 (1.05)	1.70 (1.08)	3.85 (1.04)

CONCLUSIONS

We designed this study to determine whether different protocols for how police officers approach victims while wearing body cameras affect the willingness of victims to provide information on reported incidents. We compared a condition in which (1) officers simply recorded interviews with victims and witnesses against (2) a condition in which officers were instructed to announce to citizens that they were being recorded and would cease recording if requested to do so by the citizen and (3) a condition in which officers did not wear body cameras. We did not find differences between any of these conditions in victim ratings of the interaction.

One reason that could account for the fact that we did not find an effect of the camera plus announcement condition is that observance of study protocol to notify victims that they were being recorded may have been poor. Our observers riding in the squad car reported good officer compliance with turning cameras on when they were the first on scene, but most officers did not notify victims that they were being recorded. The extensive number of observations in the study (over 300 incidents observed) has seldom been a feature of body camera research. Yet, without it, we would not have been aware that compliance with turning cameras on at the appropriate times was high or that officers often failed to notify victims that they were being recorded was low. Without this kind of extensive fidelity checking, researchers cannot know if null findings occur because of lack of efficacy of the experimental treatment or implementation failure.

Nonetheless, our results are largely consistent with both the PERF (2017) and Urban Institute (McClure, et. al. (2017) studies funded by Arnold Ventures. Congruent with our work, the PERF study reported no difference on satisfaction or procedural justice citizen survey measures between conditions in which officers did versus did not wear a body camera. In the Urban Institute study, the conditions were no body camera, body camera, and body camera plus procedural justice script. The headline finding presented in the report to Arnold Ventures was that civilians in the camera plus procedural justice script group rated the interaction more highly than civilians in the no camera group. The report also stated that there was a positive effect of the camera only treatment relative to the no camera control group, but the effect was small and only found for two of 15 dependent measures. The one study that is a significant outlier was the recent quasi-experiment conducted by Demir, et. al. (2018) in Turkey. These authors found that just the presence of body cameras with an announcement that citizens in traffic stops were being recorded had a strong effect on citizen perceptions of procedural justice and police legitimacy when compared to a condition where officers did not wear cameras.

Our field test was based on the assumption that people would notice and react to police body cameras. That assumption proved to be largely wrong. Only a small minority of victims surveyed believed that the officer they spoke with was wearing a body camera, and the percentage that did notice was consistent across treatments: That is, *victims in both of the body camera conditions were no more likely than victims in the no camera control condition to report*

that the officer they spoke with was wearing a body camera. This finding was corroborated by our extensive observational data as well. According to our observers, in 98% of the interactions where officers wore cameras, victims did not visibly react to being recorded, even when being told that they were being filmed. No victim in objected to being recorded in the 321 incidents that researchers observed. The finding that a large majority of victims was unaware of being recorded confirms a similar finding from the Urban Institute study. *Further, our survey data analysis determined that, even when victims were aware of officers wearing body cameras, there was no change in how they rated their interactions with the officer.*

Thus, the major finding in our study is that most victims do not notice body cameras and when they do notice, they do not object to being recorded. Moreover, those victims who did believe that the officer wore a camera did not rate the encounter higher than victims who did not believe or were not sure that the officer had a camera. Our findings support a body camera policy which does not require that victims give consent to having body cameras on. Rather, officers should be given a degree of discretion to discontinue recording in sensitive situations, or situations in which victims strongly object, as long as they record the reason for deactivating the recording. Our results suggest that officers will have to use such discretion only infrequently.

Conversations that our observers had with officers during the course of ride-alongs suggest that it may take time for officers to become comfortable with wearing cameras. Officers expressed practical concerns about camera operation and data uploads, but also some concern that cameras invaded their privacy and ability to exercise reasonable discretion without being second guessed later by supervisors reviewing recordings. Still, officers appreciated that the cameras could have a protective effect in the event that a citizen complaint was filed against them. There was a consensus that body cameras have a ‘civilizing’ effect on both citizen and officer behavior. However, there was disagreement whether the presence of the camera was a helpful reminder to officers to be courteous in their interactions with citizens or a restriction on using “street language” in attempting to control a disrespectful suspect.

Finally, the study broke new methodological ground in using surveys to measure citizen evaluations with police encounters. Using a combination of SMS and phone modalities to conduct the surveys with victims, we achieved an unexpectedly high 37% response rate and reduced costs substantially over what would have been spent had we used only phone modality. This response rate was double what was achieved in either the PERF (2017) or Urban Institute studies using telephone modality alone. Surprisingly, the SMS modality pulled in a higher percentage of older respondents compared to phone. SMS is a very inexpensive way to gather feedback: Our costs were \$0.62 per completed survey, compared to \$48 per completed survey by phone. We plan to use the same mixed mode method in future work, and will be interested to gather more data about which subpopulations are best reached with the two modalities.

Appendix A: Power Analysis

In planning the study, since the paired squads rotate through the same areas and times, we believe that squads are not relevant in considering the units of analysis. We planned to conduct data analysis using a mixed effects regression model. Recognizing in the design that the sampled police-victim observations are nested under officers, we planned for the model to include a term for officers as a random effect. (We also planned to run models including dummy variables for squad to ensure that squad is not a significant source of variation.) If it turned out that the intraclass correlation (see section below) is close to zero, then this reduces to a completely randomized design. The three treatment groups would be compared in terms of victim ratings of the interaction and officer evaluations. We anticipated combining items in each of the two surveys creating scales using simple summation of individual items. To ensure that summing items is justified, we planned to conduct a reliability analysis on each set of survey items to determine cohesiveness. Contact survey models were planned to include terms representing victim demographic variables (gender and age) and type of crime to increase precision of the tests.

For the comparison within the camera condition (two different officer scripts to use when approaching victims and witnesses), the sample size would be 910 squad-shifts (3 squads using one script and 4 squads using the other script) x 10 officers per squad x 13 interviews per officer.

Statistical Power

We have a cluster randomized experiment with four levels, summarized in the table below:

		Number of units		Variation in means		Variation in d(total)	Cost per unit	
		Treated	Control	ICC	Example	Example	Treated	Control
Level 4s	(Blocked)	14		0.03	99.09 to 100.91	0.200 to 0.200	0	
Level 3s	(Randomized)	1	1	0.03	99.09 to 100.91	0.200 to 0.200	0	0
Level 2s	(Nested)	10	10	0.03	99.09 to 100.91	0.200 to 0.200	0	0
Subjects	(Nested)	13	13				0	0

In order to calculate power of the design, we need to devise an estimate of the intra-class correlation (ICC). In Bloom's book, *Learning from Social Experiments*, the author suggests that in social science an ICC of .01 is small, and an ICC of .05 is fairly high. We believe that, especially at the lower levels, the ICCs especially at the lower levels is small, so we ran power models with several assumptions about the size of the ICC consistent with Bloom's estimates. The models assumed a two tailed .05 significance level under a series of scenarios-- with an ICC of .01 and .05 at all levels. We also varied the effect sizes, estimating power for a small effect size (.20), a small-moderate effect size (.35), and a moderate effect size (.50).

Appendix B: ANOVA Results

Tests of Between-Subjects Effects: Standard Protocol versus Alternate Protocol versus Control

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Hypothesis	102.273	1	102.273	58.663	.000
	Error	10.513	6.030	1.743 ^a		
Group (3)	Hypothesis	1.079	2	.540	.461	.631
	Error	471.468	403	1.170 ^b		
mode	Hypothesis	5.000	1	5.000	4.274	.039
	Error	471.468	403	1.170 ^b		
sex	Hypothesis	.115	1	.115	.099	.754
	Error	471.468	403	1.170 ^b		

Offense type	Hypothesis	2.839	1	2.839	2.427	.120
	Error	471.468	403	1.170 ^b		
age	Hypothesis	.088	1	.088	.075	.784
	Error	471.468	403	1.170 ^b		

Tests of Between-Subjects Effects: Combined Standard Protocol Conditions versus Control

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Hypothesis	103.714	1	103.714	58.952	.000
	Error	10.370	5.895	1.759 ^a		
Group (2)	Hypothesis	.203	1	.203	.174	.677
	Error	472.344	404	1.169 ^b		
mode	Hypothesis	5.195	1	5.195	4.443	.036
	Error	472.344	404	1.169 ^b		
sex	Hypothesis	.155	1	.155	.133	.716
	Error	472.344	404	1.169 ^b		
Offense type	Hypothesis	2.751	1	2.751	2.353	.126
	Error	472.344	404	1.169 ^b		
age	Hypothesis	.070	1	.070	.060	.807
	Error	472.344	404	1.169 ^b		