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POLICE BODY-WORN CAMERA PERCEPTIONS PRE/POST DEPLOYMENT

AARON VEERMAN

97 Pages

The purpose of this study was to determine if officers' perceptions of Body-Worn Cameras (BWCs) changed over the course of a six-month pilot program. Officers from a Midwest police department were surveyed prior to or shortly after receiving their BWCs (Pre-Test) and again approximately six months later (Post-Test). Once completed, independent samples t-tests, mean comparisons, and Pearson's correlations were used to analyze the data. This study did not produce many significant differences in officers' perceptions over the course of the study, according to t-test results. However, several significant differences were found after each shift was analyzed separately. Overall, less than 35% of officers felt negative about the deployment of BWCs. There were substantial deviations in officers' perspectives on the BWCs, mainly by shift. Further, experience was found to be more significantly correlated with positive feelings towards the BWCs, especially in their beliefs they would make officers safer, decrease or exonerate complaints, producing better evidence, and having less equipment difficulties. However, the majority of officers also believed the cameras could make them slower to respond to aggression.

KEYWORDS: Police Perceptions; Body-Worn Cameras (BWC), Policing, Use of Force (UOF), Citizen Complaints

POLICE BODY-WORN CAMERA PERCEPTIONS PRE/POST DEPLOYMENT

AARON VEERMAN

A Thesis Submitted in Partial
Fulfillment of the Requirements
for the Degree of

MASTER OF SCIENCE

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POLICE BODY-WORN CAMERA PERCEPTIONS PRE/POST DEPLOYMENT

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A. V.

CONTENTS

	Page
ACKNOWLEDGMENTS	i
CONTENTS	ii
TABLES	v
CHAPTER I: INTRODUCTION	1
CHAPTER II: LITERATURE REVIEW	8
Implementation	8
Collective Bargaining	9
Privacy Concerns	12
Citizen Complaints	18
Use of Force	20
Police-Citizen Interactions	25
Prosecutorial Perspectives	27
Overall Perceptions	31
Theoretical Framework	32
Totality of the Circumstances	37
Purpose of this Study	38
Limitations on Previous Research	39
CHAPTER III: METHODS	40
Background	40
Research Questions	42
Sample	43

Survey/Instruments	44
Variables	46
Considerations and Observations	48
CHAPTER IV: RESULTS	50
Independent Samples Test (All Respondents from Both Waves)	50
Independent Samples Test (Second Shift Respondents)	53
Independent Samples Test (First Shift Respondents)	55
Mean Comparison of All Respondents	56
Mean Comparisons of All Shifts	59
Pearson Correlation of Both Waves Combined	64
Pearson Correlations – First Wave	67
Pearson Correlations – Second Wave	67
CHAPTER V: DISCUSSION	70
Privacy	70
Officers Concerns for Themselves	70
Officers Concerns for Citizens Privacy	72
Citizen Complaints	73
Use of Force	75
BWCs and The Community	77
Prosecution	79
General BWC Results	81
Limitations	82
Reflexivity/Validity Concerns	82

Threats to Internal Validity	82
Generalizability	84
Contamination	85
Recommendations for Future Studies	86
Conclusion	87
REFERENCES	89
APPENDIX: SURVEY	94

TABLES

Table	Page
1. Respondent Descriptive Results	51
2. Independent Samples Test – Wave 1 and Wave 2	52
3. Independent Samples Test – Second Shift – Wave 1 and Wave 2	53
4. Independent Samples Test – First Shift – Wave 1 and Wave 2	55
5. Mean Comparisons of All Officers	57
6. Mean Comparisons of All Shifts – Part 1 of 2	58
7. Mean Comparisons of All Shifts – Part 2 of 2	63
8. Pearson Correlations – Combined Results of Both Waves	65
9. Pearson Correlations – Wave 1	66
10. Pearson Correlations – Wave 2	68

CHAPTER I: INTRODUCTION

Cameras have been a part of law enforcement for decades. Wearable technologies for law enforcement such as Body Worn Cameras (BWCs) have been in development for years, but how did they go from novelty to necessity almost overnight? The reason for this sudden change can best be linked to the officer-involved shooting of Michael Brown on August 9th, 2014. This incident drew national media coverage, riots, and investigations by several local and federal law enforcement agencies. A large part of the reason BWC's became a necessity overnight may be traced to the media coverage of this incident in the hours and days following the shooting death of 18-year-old Michael Brown, who was unarmed at the time. A review of the media coverage and the Department of Justice (DOJ) Report best illustrate the reason for this.

CNN reported the following timeline of events in the days following the shooting (summarized): Michael Brown, a recent graduate of Normandy High School, was days from beginning classes at college. On August 9th, he was walking with a friend to his grandmother's house. Brown's mother described him as a "gentle giant," and his grandmother stated he was "a good kid." He was confronted by a white male officer who told Brown and his friend to "Get the f*** on the sidewalk." They told the officer they were near their destination. The officer backed up and aggressively opened the door at which point it bounced off "Big Mike" (aka Brown), shutting back on the officer. The officer then reached through the door and grabbed Brown by his neck. Brown attempted to pull away, but the officer continued pulling him back towards the squad car. The officer then drew his weapon and said something to the effect that he was going to shoot him. The officer almost instantaneously fired his weapon, hitting Brown. Brown and his friend took off running. Brown's friend hid behind a vehicle while Brown was pursued by the officer. The officer then fired a shot at Brown, who at the time was turned around with his hands

up. He was telling the officer he was unarmed and to stop shooting. The officer then fired several more shots and Brown hit the ground, deceased. Brown's friend claimed that they had not committed any crime or harmed anybody and that Brown was killed in cold blood (McLaughlin, 2014).

The DOJ under President Obama and Attorney General Loretta Lynch opened an investigation. The incident was investigated by multiple federal agencies who found the following, which was released in a memorandum by the DOJ (2015):

Officers received reports that a subject, later confirmed to be Michael Brown, had just stolen cigarillos from Ferguson Market. During the theft, Brown pushed the clerk out of the way when he tried to stop him. Ofc. Wilson responded to the theft in progress and was provided a description of the suspect. As Ofc. Wilson was responding, he observed two males in the middle of the street. He told them to walk on the sidewalk. Ofc. Wilson realized Brown matched the description of the suspect and radioed for backup. Ofc. Wilson then attempted to exit his squad car, but the door either bounced off Brown or Brown shut it on Ofc. Wilson. Afterward, according to witnesses, Brown reached through the squad car's window, punched, and then grabbed Ofc. Wilson. This resulted in bruising to Ofc. Wilson's jaw. Wilson's DNA was found on Brown's hands, and Brown's DNA was found on Wilson's shirt collar, corroborating this account. As Brown was attacking Ofc. Wilson, he drew his pistol. Ofc. Wilson alleged Brown grabbed his pistol and he (Ofc. Wilson) fired a round, striking Brown in the hand. DNA and other evidence corroborated this account, and there was no credible evidence to disprove Ofc. Wilson's account. Afterward, Brown ran away, and a foot pursuit ensued. Despite allegations Brown was shot in the back, autopsy results did not locate any entrance wounds in his back.

Brown ran a total of 180 feet before turning back towards Ofc. Wilson. This was confirmed via bloodstains on the roadway.

Brown ultimately fell to his death approximately 21 feet west of the furthest point the blood trail went east. Witness accounts corroborated Brown moved back west towards Ofc. Wilson and witnesses believed Brown posed a physical threat. Ofc. Wilson stated he feared another assault by Brown and that Brown was reaching under his t-shirt towards his waistband. Ofc. Wilson discharged his firearm between six and eight times, stopping after Brown fell to the ground. No shot was fired at a distance less than two feet. The fatal shot to Brown appeared to be a gunshot wound to his head. Brown's uninjured hand was found to be at his waist. Witness accounts and cell phone video showed Ofc. Wilson did not touch Brown after he fell to the ground. Claims of Brown's hands being up while he was being shot were inconsistent with the evidence. Witnesses who claimed his hands were up were either found to have conflicted with their own original statements or eventually recanted. The few witnesses that claimed Brown held his hands up stated he only held them at shoulder level briefly before he dropped his hands and then charged at Ofc. Wilson.

In the end, over 100 alleged eyewitnesses were interviewed. The DOJ investigation resulted in a finding that the "evidence does not support charging a violation of federal law" (DOJ, 2015, p. 4). However, this made little difference by the time the memorandum was released. After the dust settled, Ferguson and the surrounding areas were left with an estimated 4.6 million dollars in property damage due to the riots (Unglesbee, 2014). Additionally, the massive police response cost Missouri taxpayers in excess of \$22,600,898 (McDonald, 2015). Further, when the memorandum was finally released, it did not receive near as much attention. Articles initially pushed out by the media to this day do not offer retractions or links to the most

current information. As a result, the original story pushed out by the media may have had more weight than the actual report of what happened. Even those who were aware of the DOJ findings, viewed them with skepticism and mistrust, giving rise to conspiracy theories.

If nothing else, the Michael Brown incident showed us, the media can have a profound impact on public opinions. So much so, that distrust of the police can quickly develop, especially if these relationships were already strained. This distrust worsens as departments attempt to gather facts and conduct an investigation while the public is demanding answers. Often, when facts are not immediately available, the media may seek to fill in the blanks with witness accounts and unverified information. Unfortunately, this can cause the dissemination of incorrect information. Law Enforcement agencies may be eager to counteract misinformation but cannot rush to conclusions. Rather, they must comb through evidence and witness accounts which can take a considerable amount of time. The slow response by these agencies only serves to create time for media outlets to present inaccurate information and draw their own conclusions.

In response to the Michael Brown incident in Ferguson MO and other incidents such as the aggressive stop and frisk policies in New York, many states have adopted laws and policies to increase police oversight. Some accomplished this through the creation of citizen review boards while others used technologies such as Body Worn Cameras (BWCs) to increase police oversight. As stated by Phillips (2018), "if a camera has recorded an event, and the recording is of sufficient quality to determine precisely what occurred or what was said, it will be easier to hold an officer accountable for their behavior" (p. 3). In New York, a judge even went so far as to order the implementation of BWCs to prevent the police department from conducting stop and frisk encounters with minorities. Afterward, some research suggested BWCs were effective at reducing the number of stop and frisk encounters (Ready & Young, 2015).

In contrast, the increased oversight may have benefits for law enforcement as well. Citizen review boards can review complaints against officers and draw their own conclusions. This can increase police legitimacy. In the case of BWCs, when an officer acted appropriately, such as during the Michael Brown incident, police departments can draw conclusions quicker and respond to the community with accurate information. This can limit the need for the media and the public to draw their own conclusions.

However, the need for media to draw conclusions quickly has become more of a necessity recent time. With the advent of social media and the reality that nearly everyone has a camera built into their cell phone, the media's priority has shifted to reporting first instead of reporting correctly to stay ahead of the competition. As a result, it is important that governments change to be able to disseminate correct information to counteract misinformation quickly. Even when an officer makes a mistake or acts inappropriately, the department may be able to mitigate the damage by taking ownership of the mistake, publicizing correct information, and letting the public know they are taking action.

This could have been helpful during Michael Brown incident, where claims of a white officer shooting an unarmed black male were made worse by reports that he was shot in the back while his hands were up. Even though these claims were eventually found to be inconsistent with the evidence, the court of public opinion had already been held. The result of this was hate, mistrust, protests, violence, and eventually riots. An incident that was ultimately determined to be justified ignited a race debate, gave rise to the Black Lives Matter social movement, and sparked a demand for change.

The benefits of BWCs are not limited to citizen oversight of the police but can also be used to make citizens more accountable for the interactions they have with law enforcement as

well. As Stross (2013) stated, “Citizens may be less likely to file frivolous or untruthful complaints against officers wearing cameras because citizens know the video evidence can instantly refute their claims” (p. 4). While this benefits law enforcement, it can raise privacy concerns, as officers may be recording intimate aspects of citizen's lives, not to mention their own, without consent or even advising them they are being recorded in some situations.

Despite these privacy concerns, BWCs have been shown effective in reducing complaints, use of force, and lead to seemingly better interactions between citizens and law enforcement. This can increase police legitimacy within the community and allow for a more collaborative approach to crime control. Once these new relationships exist, community members may be more inclined to report crime and provide information to the police. In turn, the police can identify and apprehend offenders more quickly, removing them from the community before more people are victimized. The BWC provides an accurate account of the facts known to the officer at the time of the incident and creates an irrefutable record of police-citizen encounters that historically relied on the memory of the officer and victim at trial. Thus, the video evidence gathered by the BWCs can then be used to improve the likelihood of conviction.

Additionally, these recordings can be introduced at trial even if victims, witnesses, or offenders refuse to testify or provide testimony inconsistent with their original statement to the police, further increasing the likelihood of conviction. Afterward, these convictions may also serve to increase police legitimacy, as the community may come to see more police actions being supported by the courts, and potentially longer sentences which may remove problem individuals from the community for longer periods, allowing time for troubled neighborhoods to recover.

BWCs come with limitations though. For instance, they only record what they are pointed at, not what the officer sees. They cannot record an officer's thoughts or what the officer

perceived at the time (i.e., a cell phone being mistaken for a gun). Additionally, the ability to look upon incidents and slow them down offers increased opportunities for scrutiny, a luxury the officer did not have when making a potentially life or death decision as was outlined in the landmark *Graham v. Connor* (1989) Supreme Court case.

In the end, BWCs offer benefits similar to squad car cameras. They create evidence of the officer's actions, as well as that of the citizens. They can quickly allow departments to address concerns and can enforce compliance with departmental procedures. They can also increase the likelihood of conviction and prevent lengthy court proceedings. At the same time, they make police actions more accountable to the public and can increase the legitimacy of agencies within their communities. Some studies have even suggested they reduce complaints and reduce the number or use of force incidents.

This study focuses on the perceptions of officers to evaluate the effectiveness of the BWCs as they relate to accomplishing their perceived benefits. By examining surveys of officer perceptions before and after BWCs were deployed to a police department, this study sought to identify if the expectations related to things such as police/citizen encounters, use of force, and citizen complaints were realized. Additionally, this study sought to analyze how officers' perceptions differ by age, education, gender, shift assignment, etc.; how those perceptions change over time; and if changes in officer's perceptions over time were impacted by officer demographics or assignments.

CHAPTER II: LITERATURE REVIEW

Implementation

BWCs represent a monumental advancement in technology and law enforcement. However, they come at a high financial cost, so much so that the President's Taskforce on 21st Century Policing recommended the allocation of \$75 million in 2015 for the implementation of BWCs (Crow, Snyder, Crinchlow, & Smykla, 2017). Not only are BWCs themselves expensive, but they require changes in infrastructure, training, and in some cases, law. Additionally, this technology often represents a change in working conditions which could trigger negotiations within departments which are subject to a collective bargaining agreement. Despite these costs, many departments are racing to implement BWCs and having to navigate this rapidly developing technology.

There are currently many options for BWCs from several manufacturers such as AXON and Panasonic. Often, the video is stored on the BWC for a short duration of time until it can be uploaded to a server or web-based storage solution once the officer returns to his or her department. BWCs are typically affixed to an officer's uniform and activated manually or by an event such as a taser deployment or squad car emergency lights. Activations caused by emergency lights can also be linked to a compatible in-car system. This can simplify reviewing video by allowing all footage from an incident to be viewed and copied from one location, potentially increasing officer efficiency.

While the concept is simple enough, the implementation requires considerable time, resources, and planning. Many times, infrastructure must be changed to accommodate the additional terabytes of storage required to store the video in compliance with state statute. For example, in Illinois, all recordings must be retained for a period of 90 days with the exception of

flagged recordings which include: cases where formal or informal complaints have been filed; the officers discharged a firearm during a use of force incident; death or serious bodily harm occurred to anyone on the recording; encounters resulting in a detention or arrest; incidents subject to an internal investigation; cases determined to have evidentiary value in court; and cases where the recording officer requests the video be flagged for official purposes such as training. If evidence is flagged, it must be kept at a minimum of two years but may be held longer if used in court proceedings, only being permitted to be destroyed with an order from the court (Illinois General Assembly, 2016).

To facilitate these requirements and accommodate the BWCs, departments may need to make software and network upgrades to facilitate the transfer, viewing, and collection of the videos. Some departments may opt to simplify this process by going with a manufacturer such as Axon who offer a package that includes equipment and a remote management/storage solution for a monthly fee. However, once this route is chosen, departments are essentially making a long-term commitment to these companies. When this occurs, companies such as Axon become a warehouse for the data, and it will likely be cumbersome to move the data to a different medium later. Making matters more complicated, it is also impossible to abandon the data and change manufacturers in part due to the fact many states require BWC footage to be retained for prescribed amounts of time. In some cases, it may even be required to be held indefinitely. As a result, departments must first secure a means of future access before making any changes.

Collective Bargaining

In addition to issues with BWCs themselves, many departments are unionized, and thus an additional layer of negotiation may be required prior to starting a BWC program. One way this is accomplished is through a Memorandum of Understanding (MOU). These serve as

temporary agreements with police unions throughout the trial program until full implementation, at which time further bargaining may be needed. While this step may be a hindrance to implementation in some cases, departments who fail to work out the details with their respective unions can end up in lengthy court battles.

The most common point of contention amongst unions whose leadership fail to work together appears to be that BWCs constitute a change in working conditions, and, therefore, must be negotiated (White, 2014). As Slean (2017) points out, “while there is variance among state collective bargaining statutes, the majority of states borrow language from Section 158(a)(5) of the NLRA,¹⁴⁵ which mandates collective bargaining over any subjects that concern a private sector employee’s terms and conditions of employment” (p. 246). Several examples of these conditions were offered by the Chicago Police Department’s Fraternal Order of Police (FOP) in their 2018 Illinois Labor Relations Board (ILRB) Decision. The first condition the FOP cited was in relation to safety concerns arising from the red light on the camera which indicates if it is recording. The FOP argued that the light could reveal undercover officers or reveal an officer’s location during activities requiring stealth. The next condition cited was that BWCs may record intimate moments such as restroom breaks, thereby creating privacy concerns. Lastly, the FOP stated officers were concerned they were being disciplined for loss or damage to the BWCs; as well as, how often supervisors could review the video as it relates to discipline. Specifically, officers were concerned they would be disciplined for not activating their cameras or that supervisors may conduct fishing expeditions in an attempt to bully or target specific officers for discipline (Illinois Labor Relations Board, 2018; White, 2014).

As it relates to Illinois, the Illinois General Assembly (2016) specifically addressed some of these concerns under 50 ILCS 706/10-20 (a) 9 which provides for the following uses as it relates to discipline under the Officer Worn Body Camera Act:

Recordings shall not be used to discipline law enforcement officers unless:

- (A) a formal or informal complaint of misconduct has been made;
- (B) a use of force incident has occurred;
- (C) the encounter on the recording could result in a formal investigation under the Uniform Peace Officer's Disciplinary Act;
- (D) or as corroboration of other evidence of misconduct.

In situations where discipline or other situations have not been addressed, administrators may be forced to halt their programs to engage in negotiations, regardless of public sentiment. However, Slean (2017) also notes that in the case of public employees as it relates to protecting the public, there has been some deviance by the courts regarding negotiations involving cameras. One example Slean (2017) provided was an Illinois Labor Relations Board case which held:

The installation and use of video cameras is a matter of inherent managerial authority where the employer provides public safety functions because the employer's delay in providing its service has serious public health or safety implications. Therefore, because the scope of negotiations in the public sector reflects this added responsibility, there is less opportunity for negotiations. (p. 246-247)

Beyond the Chicago ILRB case, other arguments have been raised as well. One such argument made on behalf of officers is that the field of view of the camera is but one perspective of the events. Officers may observe movements outside of the camera angle and must make decisions at a moment's notice without the benefit of hindsight. Often, camera footage can be slowed down, giving the viewer the ability to determine the reasonableness of the officer's actions by dissecting the video frame by frame, a luxury not afforded to the officer at the time of an incident. As Ariel and colleagues (2016a) noted, "It is only with the clear vision of hindsight that a "forceful incident" might be deemed to have resulted from an abuse of decision-making powers" (p. 457).

Further, BWC's do not capture what the officer's perception was at the time, but what the reality of the situation was. These perceptions, although very real to the officer, may be interpreted as lies or fabrications when not matching up to the incident reports. While often time's officers may be able to go back and view their footage before making the report, resolving these inconsistencies, this may not be of any benefit to the officer (Phillips, 2018). As Phillips (2018) pointed out, "an officer may tailor the statement to fit the video, which may not provide a justification for their behavior" (p. 15). Phillips (2018) further argued that, in doing so, some things might be left out of the incident report which would have added credibility to the officer's actions. He argues these perceptions rather than the reality should be included in reports, and that "perceptual distortions, misinformation, and false memories must become part of the 'reasonable officer' standard articulated by the United States Supreme Court in *Graham v. Connor* (1989)" (p. 15).

Privacy Concerns

BWCs allow every aspect of an officer's encounter from the perspective of the camera to be recorded, creating permanent government records of people's conduct and even the intimate details of their homes. This has led to concerns about what and when officers should record. Officers may have trouble determining what to do in cases where their victim refuses to be recorded or situation where individuals wish to provide intelligence information to police departments but do not want to have their identities revealed. White (2014) argued that, in addition to these, officers should be prohibited from recording in situations such as strip searches and conversations between officers involving "case tactics or strategy" (p.42).

The ACLU takes a different position and argues every contact with citizens should be recorded, including casual conversation. They argue that, as a result, "when a situation does go

south, there's an unimpeachable record of it-good, bad, ugly, all of it" (Miller, L., Toliver, J., & Police Executive Research Forum, 2014, p 12). Miller et al. (2014), through their research, pointed out that having all contacts recorded can make activations instinctive to the officers and protect them from being scrutinized, especially during instances where discretionary decisions to record might have otherwise exonerated the officer.

To the contrary, the Police Executive Research Forum (PERF) argues that officers should use discretion as to when to record, but have specific circumstance outlined as to when recordings are required. PERF argues that recording at all times could damage police-community relationships. For instance, officers may want to use discretion as to when to record during traumatic and sensitive situations, such as interviews with sex assaults, partially clothed individuals, during medical calls, or in hospitals (Miller et al., 2014; White, 2014, Gaub et al., 2016).

PERF further argued that citizens may not want to speak openly with officers during non-law enforcement encounters because they are always being recorded. As a result, officers may have trouble establishing and retaining relationships with their community. On the other hand, relationships within the police department may be damaged as well. When departments wish to make recordings of every interaction officers have, it may communicate to officers that they are not trusted by their administrations or the public at large (Miller et al., 2014). The effects of this could demotivate officers or discourage them from communicating with the public outside of law enforcement contacts, hurting community relationships.

In some instances, officers may have to weigh the benefits gained by having a recording of the interaction against not have the information at all. In other instances, laws governing BWCs may provide guidance. In Illinois, for instance, officers must activate their BWCs when in

uniform, on duty, and responding to calls for service or “engaged in a law enforcement-related encounter or activity” (Illinois General Assembly, 50 ILCS 706/10-20 (a) (3)).

In addition to privacy concerns over when to record, situational privacy concerns may arise as well. In someone’s home, for instance, departments have held that officers have a right to record as long as they have a right to be there (Miller et al., 2014). However, officers entering a home may unwittingly record something illegal in plain view, but not realize it until afterward. While the plain view doctrine would require the illegality of these items to be immediately apparent to be used as an exception to the warrant requirement, BWCs would allow officers to capture evidence which would be capable of being reviewed later. Even if the illegality of the item is not immediately apparent and officers are unable to get a warrant, the citizen may still be left feeling that their privacy was compromised (Blitz, 2015).

Moreover, many states have laws regarding the public disclosure of government records. As a result, concerns can arise over the public at large being able to see the intimate aspects of one’s home. As Scott Greenwood of the ACLU pointed out:

An officer might be allowed to go into the residence and record, but that does not mean everything inside out to be public record... We do not want this to show up on YouTube. My next-door neighbor should never be able to view something that happened inside my home without my permission. (Miller et al., 2014, p. 15)

Issues such as these can create legal challenges some states are racing to overcome. Many states have enacted laws exempting BWC footage from public disclosure. Laws and policies may also be developed to combat privacy issues by requiring shorter retention times for non-evidentiary videos, less than 90 days in some cases. This allows videos to be retained in the event a complaint arises, maintaining transparency, but also protects privacy by limiting the retention time and reducing the chances of public disclosure (Miller et al., 2014).

Another privacy issue regarding BWCs is whether citizens should be made aware of the recording. Some states require two-party consent which stipulates both subjects must be notified they are being recorded. Even in circumstances where this may not be required, many departments still request their officers make them aware of the recording, believing it will improve police interactions with the public. (Miller et al., 2014). A recent study by White, Todak, and Gaub (2017) supported this belief, finding citizens who knew the officer was wearing a BWC were more likely to believe the officer acted professional, cared about their well-being, believed they were treated fairly, and felt treated with respect. Further, they were more likely to believe the officers were honest, listened carefully, and were ultimately more satisfied with how their situation was resolved.

However, there is still some concern that advising individuals they are being recorded could lead to requests for the officer to stop recording; and, under what circumstances allow the camera to be turned off when someone refused to be recorded. In Illinois, for instance, state statute addresses this and identifies that cameras may be turned off at a witness or victim's request if it is not impractical to do so. The same right is not afforded to the offender. Further, if there is a possibility that the victim or witness may be the offender, the officer is to continue recording and is only required to tell them they are being recorded when there is a reasonable expectation of privacy (Illinois General Assembly, 2016). Some departments may opt to have all or most encounters recorded to simplify the process and mitigate the chances of officers not recording something they should. By requiring all recordings, officers may develop "muscle memory so that officers do not have to think about it when they are in a real-world situation" (White, 2014, p. 29).

While privacy concerns about BWC's have been presented by the ACLU and law enforcement, it does not appear these concerns are consistent with the public at large. As Sousa, Miethe, Terance, and Sikiyama (2015) found during a national survey, there is overwhelming support for the use of BWCs with over 90% believing they should be used for all law enforcement. The survey also found most participants even supported their use among EMTs, Firefighters, Private Security, TSA, and Correctional Officers. Even 45% of those surveyed supported their use by neighborhood watch groups. Further, 72% believed police should always record interactions with citizens, and only 16-26% believed police should honor requests to turn them off. Additionally, even in medical emergencies, where privacy concerns should be at their highest, 71% believed it was at least somewhat necessary to use BWCs. Even those directly impacted by BWCs, as is the case with police detainees, were not overly concerned with privacy. During a study in Austria of nearly 900 police detainees, only 21% cited privacy concerns with the BWCs. Similarly, only 19% concerned about being asked for consent prior to being recorded (Taylor, Lee, Willis, & Gannoni, 2017).

Unfortunately, privacy concerns are not fully addressed by the public's acceptance of the government intrusion presented by BWCs. Officers themselves may also have privacy concerns. For instance, officers may be fearful of accidental recordings of intimate parts of their days such as speaking with a loved one on the phone or using the restroom (ILRB, 2018). While officers have had to endure recordings by citizens via cell phone for years, there has always been some reprieve or escape after the incident. This is not the case with BWCs, which go everywhere with the officer and can record nearly every aspect of an officer's day, even if unintentionally.

The risk of unintentional recordings can be even greater for the officer when considering that the BWCs can pre-record or buffer prior to activation. As a result, any activation taking

place immediately after using the restroom or handling personal matters would conceivably be captured. In the past, officers received some protection, as it was recognized that officers have a right to privacy where that expectation is reasonable. However, courts have attempted to limit this expectation by stating police generally do not have a right to privacy while performing their duties (Van Tassell, 2013). This seems to be in line with public sentiment. For example, a study in Austria found that 64% of those surveyed disagreed with officers being able to record them without permission while 78% believed they should be able to record officers (Taylor et al., 2017).

As technology continues to develop and is placed in the hands of nearly everyone, officers may be forced to accept they have little privacy in the workplace, while accepting they are creating constant video footage of themselves they have little control over. Making officers even more skeptical, is the constant barrage of media coverage casting officer's actions in a negative light and the possibility of nearly everything they do being scrutinized by their agency.

In the end, police administrations may struggle to win over officers at the onset even with overwhelming support from the community. White (2014) argues most of these concerns can be alleviated by working with officers during implementation and allowing time for officers to become comfortable with BWCs. For instance, as Miller et al. (2014) found with some police administrators, "The more officers use the cameras, the more they want to have them," and "If I could put cameras on all of my patrol officers, I would have 100 percent support." Chief Farrar further supported this by stating: "Now that the officers wear the cameras, they say that they could not do without them" (Miller et al., 2014, p. 27).

Citizen Complaints

Citizen complaints are a rare occurrence. In 2011 alone, approximately 13% of the US population (241.4 million) made an estimated 31.4 million requests for police assistance. Of those, 93% felt the officer acted properly, and 86% reported being satisfied with the response they received (Durose & Langton, 2011). In 2002, The Bureau of Justice Statistics, despite later finding serious measurement flaws, found there were approximately 53,112 complaints nationwide resulting from the use of force among officers (Hickman, 2006; Hickman & Poore, 2018). It is estimated that approximately 44 million people have contact with the police per year with approximately 0.12% of those contacts resulting in a use of force complaint. Of those, approximately 8% or less than 0.01% of all contacts were found to justify disciplining an officer (Hyland, Langton, & Davis, 2015; Hickman, 2006).

No data were located on other forms of complaints, but complaints can also include procedural issues such as improper searches to unprofessional conduct such as rudeness. The process can be lengthy and may include interviews with the complainant, witnesses, and officer(s). In the end, complaints often result in dispositions of not sustained (there was insufficient evidence to substantiate a claim), sustained (there was sufficient evidence to justify discipline), exonerated (the allegation was true, but the officer acted appropriately), or unfounded (not based on facts or did not occur) (Hickman, 2006).

Despite their rare occurrence, complaints against officers can create bad publicity for departments. Complaints, regardless of merit, can also take a significant amount of time to review (Valente, 2017). They may also result in mistrust of the administration amongst the rank and file officers. Even those complaints which are unsubstantiated may still have a purpose though. Rozema and Schanzenbach (2016) noted in their research; supervisors are incapable of

monitoring all the interactions their officers have with the public and complaints may serve to identify problem officers. They further found, “the mere presence of excessive civilian allegations, whether or not investigated or sustained, can be used to identify officers who are at high risk of perpetrating serious misconduct and create significant liability” (p.34).

Considering this, citizen complaints, although unpleasant for departments, may offer a means to identify and correct problems with officers or departmental procedures early. To assist with this, departments may be able to conduct these investigations more efficiently with the introduction of BWCs. Departments, using this technology, can quickly weed through baseless allegations and focus on those with merit. It can also allow departments to quickly respond to negative publicity and provide the public with a sense of transparency. At the same time, departments may benefit from increased legitimacy amongst its officers by being better equipped to back officers during situations they were found to have acted appropriately. Additionally, officers may be more likely to believe the department acted appropriately during discipline, knowing BWC video was likely available during the investigation.

In addition to the benefits of resolving complaints, BWCs may reduce false complaints knowing they can immediately be refuted. The vast majority of officers seem to agree with this sentiment, doubting the usage of BWCs would increase complaints (Gaub et al. 2016). Additionally, Phoenix (AZ), Mesa (AZ), Rialto (CA), San Diego (CA), and seven other departments all found complaints substantially decreased with the introduction of BWCs (Heldberg, Katz, & Choate, 2016; Mesa Police Department (PD), 2013; Ariel, Farrar, & Sutherland, 2015; San Diego Police Department (PD), 2017; Ariel, Sutherland, Henstock, Young, Drover, Sykes, Megics, & Henderson, 2017). In further support, San Diego PD (2017) also found that overall allegations decreased considerably. Even officers not equipped but

working with BWC equipped officers could see benefits of reduced complaints. A recent Spokane (WA) study found that, while officers in Spokane equipped with BWCs observed an 80% reduction in complaints, officers without BWCs also observed a 50% decrease. Then, once issued BWC's, complaints dropped by another 50% (White, Gaub, Janne, & Todak, 2018).

Use of Force

The use of force on citizens by police officers is often heavily scrutinized despite being a relatively rare event. Hyland et al. (2015) noted, of the 44 million police contacts per year, only 1.6% involve the threat or use of nonfatal force. However, nearly three-quarters of those receiving force believed the force was excessive. The use of deadly force is even rarer. For instance, from 2003-09, approximately 2,931 or 0.003% of all (97.9 million) arrests were deemed to be homicides by police officers (Burch, 2011).

A study by Hickman in 2006 using LEMAS (Law Enforcement Management and Administrative Statistics) survey data brought to light several realizations about officer use of force regarding complaints. The report found that there were over twenty-six thousand complaints regarding the use of force, of which only 8% were sustained. The total number of complaints per officers was found to be 6.6 complaints per 100 officers per year in large departments with over one hundred officers. However, a later study by Hickman and Poore (2018) found data from the LEMAS had “serious, if not fatal, measurement flaws” and “do not provide a valid and reliable basis for comparative statistical reporting and research purposes” (p. 473). The reason provided for this involved inconsistency in reporting by agencies when completing the LEMAS survey. Hickman and Poore (2018) concluded some agencies submitted the total number of complaints instead of those only involving force, combined citizen complaints with internal complaints, combined or replaced citizen complaints with officers

reported uses of force, reported the total number of allegations in a single case rather than just the cases involving force, reported the complaints investigated instead of the complaints received or made other data entry errors.

In reviewing these inconsistencies, it appears most of these errors would result in overreporting of use of force complaints with the exception of those agencies that reported complaints investigated rather than complaints received. As a result, much of what is currently known about use of force complaints is probably not entirely accurate. However, recent research on allegations made against the Chicago Police Department by Rozema and Schanzenbach (2016) suggests that only 2.4% of allegations are sustained and an average of 0.17 allegations are received per officer per year. Their research showed outliers, however.

The outliers not only hurt police legitimacy but can cost the departments and taxpayers a significant amount of money. For instance, when compared to the average officer, the top one percent of officers received nearly twice as many allegations and resulted in damages payouts of \$1,165,582. To put this in perspective, the entire Chicago Police Department paid out a total of \$6 million in damages over the same period. In contrast, the 95th percentile only had average damage payouts of \$55,000, while the 95th through 99th percentiles had average payouts of 370,000. Further, little difference in payouts was found between those with no allegations and those in the 80th to 90th percentile. As a result, Rozema and Schanzenbach (2016) suggested intervention efforts should only be focused on those officers with the most allegations. For instance, Ofc. Jason Van Dyke who was involved in the shooting death of Laquan MacDonald represented the top 3% of officers with allegations. This incident alone resulted in nearly \$5 million in damages.

In acknowledgment of this, BWCs may offer a way to evaluate officers' use of force and further scrutinize those officers receiving the bulk of allegations. By recording officer contacts in a way technology has not previously been capable of, use of force incidents can now be analyzed frame by frame to help determine when, how often, and what factors can result in officers using force. This could lead to better research and identification of problem officers or training deficiencies. However, researchers should use caution when using BWC data to analyze the use of force. As Willits and Makin (2018) found "coding of footage data is difficult. Police interactions, especially those involving the use of force, can be chaotic scenes, and a given camera did not always capture all of the data nor was it always easy to decide how to code each part of the interaction" (p. 68). Making analysis more difficult, Willits and Makin (2018) found these were brief with the duration of force only averaging 36 seconds.

In addition to the benefits BWCs may provide to administrators and researchers, they may also result in a reduction of force by officers. However, the results of current studies seem to provide inconsistent results, especially when compared to the significant reduction observed by Rialto PD (Farrar, 2013). Despite these inconsistencies, there may be several reasons for these decreases.

One positive reason for the reduction may be that officers are responding to resistance with lesser amounts of force. As San Diego PD (2017) realized, when compared to the prior years, greater levels of force decreased by over 16% while lesser types of force increased by over 25%. The vast majority of those lesser uses of force involved merely physical strength to control the aggressor. A similar finding was found in Tampa (FL) where officers with BWCs were observed to have an 8.4% decrease in responses to resistance, while the control group without the BWCs were found to have a 3.4% increase (Jennings, Fridell, Lynch, Jetelina, & Reingle

Gonzalez, 2017). As mentioned earlier, the same was found in Rialto (CA), which observed a 58% reduction in use of force incidents for BWC officers which, up until the point of the experiment, had realized ten times more use of force incidents than seen in the previous three years (Ariel et al., 2015; Farrar, 2013).

Some studies have found these reductions may be limited to certain situations, however. While odds of using force decreased by 50% overall with officers using BWCs, research has found that BWCs may not affect more aggressive uses of force such as impact weapons, K-9 deployments, or tasers (Henstock & Ariel, 2017). Additionally, departmental policies regarding BWCs may have an impact on the use of force. In fact, the use of force was substantially linked to the officer's ability to decide when to use the camera, which officers were less likely to do when given the opportunity. So substantial were the differences, force rates were found to be 37% lower when the officer had no discretion to record and a staggering 71% higher when officers had the discretion to activate their BWCs (Ariel et al., 2016a; Roy, 2014).

There may be a more negative reason for the decrease in force, however. A recent study found that officers wearing BWCs were assaulted 14% more often per 1,000 arrests than their peers not wearing BWCs (Ariel, Sutherland, Henstock, Young, Drover, Sykes, & Henderson, 2016b). In contrast, ODS Consulting (2011) found the opposite in the UK, recording only four assaults on officers in five thousand BWC encounters. Despite this, further evidence of increased aggression towards BWC officers may be seen in a study by Farrar (2013), who found that all the use of force incidents with BWC equipped officers started with suspects who were physically abusive or physically resisting arrest. This may indicate officers are slower to respond to potential officer safety issues.

Officers may also be responding with lesser amounts of force or possibly even hesitating to use force for fear of their actions being evaluated or scrutinized on playback. Many officers acknowledge use of force generally looks bad on camera. Due to this, officers may be attempting to wait until there is no doubt responding with force will appear justified on camera. In support of this, Mesa PD (2013) found more than 80% of their officers believed BWCs would make them more cautious when making decisions. Phoenix and Tempe officers also believed the camera made them act more cautious (Gaub et al. 2016).

While these perspectives may be welcomed by the public at large, it may be increasing the risk to officers who are waiting to act on warning signs of aggression until they are being attacked. Sousa, Coldren, Rodriguez, and Braga (2016) point out that this hesitation can create a safety concern which may ultimately be challenged by police unions.

Another possible side effect that may lead to the reduction is that less police work is being done overall, especially proactive policing. This is often referred to as the Ferguson effect. As Wallace et al. (2018) noted BWCs expose officers to increased scrutiny and risk of public and departmental scrutiny which may result in officers seeking ways to reduce those risks. In most cases, this reduction would come in the form of self-initiated or proactive policing such as drug interdiction or gang suppression rather than calls for service. These types of stops are the most likely to be scrutinized especially as they apply to the 4th Amendment and unreasonable searches or seizures. These individuals also tend to be more violent and less cooperative with police officers. Morrow et al. (2017) found several situational factors to impact officers use of force, many of which are common in proactive policing strategies. For instance, officers were significantly more likely to use force in situations that involved frisks when individuals were suspected of having a weapon or have committed a violent crime. Additionally, force was

significantly more likely to take place in high crime areas where proactive policing styles are generally the most used.

Unfortunately, few studies have been done on the effect of the BWCs on police productivity, and a study by Wallace et al. (2018) was unable to find evidence that the BWCs reduced self-initiated activity. In fact, at least in Spokane (WA), officers with BWCs were found to have significantly greater numbers of officer-initiated calls when compared to the control group. Wallace et al. (2018) noted several items might affect the presence of depolicing or reductions in activity in officers, especially as it pertains to BWCs. To counter this, they argued agencies should strive for collaborative planning with officers and union members during the BWC planning process whereby officers can voice concerns and are empowered to make decisions. Additionally, clear administrative policies should be developed which are understood and available to officers. Lastly, depolicing may be less likely to occur in agencies that have good relationships with their communities, display a strong sense of police legitimacy, and officers do not feel unreasonably scrutinized by the community.

Police-Citizen Interactions

Many proponents of BWC's believe that Police-Citizen Interactions will improve with the presence of BWCs. Theoretically, both officers and citizens will act more appropriately if they know they are now being recorded. Unfortunately, as stated previously, some research has suggested officers are being assaulted more by citizens than they were prior to the use of BWC's. If officers are genuinely being assaulted more, the initial perception of citizens being more compliant for BWC equipped officers may be inconsistent with reality. This is further supported by the changes in perception Gaub et al. (2016) observed among officers after BWCs were implemented. For instance, officers in Spokane, Phoenix, and Tempe were consistently found to

believe citizens would be more cooperative before the deployment of the cameras. Afterward, however, officers were less agreeable to this perception, with only Tempe believing were more cooperative with the presence of BWCs.

Furthermore, drops in expectations of citizens were also found across the board in areas such as respect, the likelihood of resistance during the arrest, and aggression. In Orlando, only 30-40% of officers agreed that BWCs even impacted citizen behavior or de-escalated confrontations (Jennings et al., 2017). Worse, White et al. (2018) found that officers became less convinced the BWCs influenced citizen behavior the longer they used them. Despite this, nearly 80% of surveyed residents in Florida believed their resident's behavior would improve (Crow et al., 2017).

Additionally, nearly 90% of residents believed the officer's behavior would improve (Crow et al., 2017). Police officers also believed they would act more professionally towards citizens with the introductions of BWCs. As the Mesa Police Department (2013) demonstrated in their study, over 75% of the officers believed it would make officers act more professionally. Other officers were not as confident. As Jennings et al. (2017) found in Orlando, where only 25% of officers believed BWCs affected their behavior in the field. Regardless of whether officers believed their behavior changed, the mere presence of the cameras may make citizens believe the officers acted more professionally. White, Todak, & Gaub (2017) found that nearly 83% of citizens who had an encounter with officers wearing a BWC believed the officer acted professionally, and 72.9% believed the officer cared about their well-being. The same study found that less than 29% of those citizens were aware of the presence of the BWC which may indicate that the officer was, in fact, acting more professionally, as opposed to the citizen

believing the conduct was appropriate due to the presence of the BWC. Moreover, perceptions were generally better when the participant was aware of the BWC.

Prosecutorial Perspectives

Prosecution of law enforcement cases is almost entirely dependent upon evidence, officer observations, and witness testimony. BWCs touch on all these aspects with their ability to record testimony and observations while making evidence increasingly available to the prosecutors. As some research has shown, this increased availability of evidence can assist with quicker and more positive outcomes.

Mesa PD (2013) found that over 75% of its officers believed the BWCs would help prosecute Domestic Violence (DV) cases, where victims are more likely to become less cooperative at trial. These perceptions are similar to those found in Spokane (WA), Tempe (AZ), and Phoenix (AZ) where the majority of officers agreed the prosecution of cases with uncooperative DV Victims benefited from the BWCs (Gaub et al., 2016; Katz, Choate, Ready, and Nuño, 2014). In addition to DV Cases, Morrow, Katz, and Choate (2016) found that BWC officers were significantly more likely to have their cases result in positive outcomes (i.e., arrest, guilty pleas, or guilty verdicts at trial). However, Gaub et al. (2018) did not find any significant differences in the outcomes of cases in Tempe (AZ).

Despite this finding, BWCs may become invaluable in pre-trial hearings such as motions to suppress by providing evidence of probable cause for searches and seizures in court. As Buttar (2016) stated, “Cameras could capture footage used against defendants at criminal trials-either where the footage depicts criminal acts, like jaywalking or selling loose cigarettes, or where it merely supports suspicion of potential crime, justifying subsequent stops and searches” (p. 123).

While this video may be an invaluable resource, the audio captured by the BWC may be more useful. In some circumstances, use of force incidents, which often occur within close proximity of the offender, do not yield suitable video. Situations such as handcuffing may produce BWC footage of little more than clothing. This is where the audio may be more helpful. It can help the officer recall what they said and what the offender or victim said during an incident. This can be very important in domestic violence incidents where victims may be unwilling to give or provide false testimony to protect their partner during a trial. In cases where the victim simply does not recall what occurred, the audio/video can also be used to assist their memory and better prepare witnesses for trial. The BWC video can also be used to impeach witnesses, suspects, or even victims who provide statements inconsistent with their original account on the scene.

Despite the positives, BWCs may have some adverse side effects regarding prosecution. The presence of BWCs and other cameras in law enforcement can make prosecutors increasingly reliant on them. As such, when this information is absent, they may hesitate to move forward with the case on officer testimony alone. In the past, officer testimony was at the forefront of trials, and the officer's credibility was typically unchallenged. Today, officer testimony typically falls into the background and is used to narrate squad car and BWC footage. Officers who fail to secure video evidence of infractions may now appear less credible in the courts and have to justify why they should be considered credible without the video. These situations are made worse when video evidence is available but does not capture the infraction. In many cases, it can become increasingly difficult to explain why an officer was able to see something the camera did not. Further, the idea that the officer can see more than the camera may not be fully appreciated or could create an avenue for the defense to discredit the officer at trial.

On the other hand, even when BWC is available, it may not capture the infraction in such a way to be convincing enough for a conviction. As Alpert and McLean (2018) noted, this can be likened to the review process in the NFL. Even when a referee's call is contested, and the video replay is reviewed, there may still be a lack of clear and convincing evidence to come to an appropriate resolution. The NFL recognizes that the events that led to the referee's call may not be captured despite having several high-resolution camera angles, sophisticated equipment to break down the play, and a whole team to review the play. In these cases, the decision rests solely on the original call made by the referee who observed the infraction. When compared to BWC and law enforcement, the referees would be law enforcement and the call on the field would be probable cause for the arrest. The coach that feels he was wronged confronts his/her accuser, and a trial is held before the NFL Command Center, or a judge/jury in the case of BWC and Law Enforcement. This is where the NFL and law enforcement differ, however. In the case of the NFL, video evidence must be presented that convinces the command center beyond a reasonable doubt that the referees should change their original decision. In the courts, video evidence is used to verify the officer's original decision. If the video related to the officer's decision is not convincing beyond a reasonable doubt, their decision (call) is dismissed (overturned).

Lastly, public outcry may impact the investigation and subsequent trial. When an officer is involved in a shooting, and there are accusations that the officer acted inappropriately, police departments are placed in a public relations quandary that may directly impact the investigation and trial. If the video is not released, the department risks civil unrest and may appear to be covering for their officer. If the BWC video is immediately made available to the public, the investigation may be impacted. For instance, individuals who may have witnessed the officer-

involved shooting may change their account of events after observing the video. As mentioned previously, the video does not capture everything, and the witness may have had a unique perspective on the situation. The witness, in turn, may become tainted before they have had an opportunity to be interviewed.

Similarly, individuals with their own biases and prejudices may come forward claiming to have viewed the shooting. They can then make their account match the BWC footage while filling the blanks with allegations that match their own predisposed ideas of what happened. This can substantially add to the time it takes to investigate the incident, as all of the potential witnesses must be interviewed, and false claims must be reconciled. To the contrary, witnesses who come forward and provide information known but not released to the public may be found to be more credible. However, when false claims mirror what was observed on BWC and released to the public, it may become more difficult to separate fact from fiction. This could be seen on some level during the Michael Brown incident in which over 100 witnesses came forward to provide their account of the event. In the end, several of the witnesses were found to have provided statements inconsistent with the facts and evidence of the case. In some cases, the witnesses were even found to have changed their original statement of what had occurred all together (DOJ, 2015). Had all the evidence been made public immediately, these witnesses may have been able to make their accounts better match the evidence, making them harder to discredit.

The second issue with departments releasing BWC video involves court proceedings. In theory, juries should come to trial with an open mind and be seeing all of the evidence for the first time. This allows juries to make a fair and impartial decision. If the video evidence is released, members of the jury may be impacted by commentary and perspectives provided by the

media and other members of society. In cases such as this, a change of venue could be requested, but, in cases resulting in national media coverage, finding individuals for a jury who are unaware of the case may become increasingly difficult.

Overall Perceptions

Overall, the perceived benefits seem to outweigh the costs and most have positive feelings towards the BWCs. Officers in Tempe and Spokane were both found to agree cameras should be adopted throughout their city and in other cities (Gaub, Choate, Todak, Katz, & White, 2016). These findings were similar to those found in a study of Orlando officers, where generally most agreed BWCs should be deployed (Jennings, Fridell, & Lynch, 2014). Phoenix PD was the only exception to this. However, some of the negative perceptions realized by Phoenix in the Gaub et al. (2016) study may not have had as much to do with officer's perceptions of BWCs as it had to do with the BWC manufacturer. When considering Phoenix PD already had extremely poor perceptions of BWCs, it's interesting to note their perceptions of BWCs actually worsened. By the end of the study, only 8.2% of officers believed BWCs should be adopted, down from 13.9% at the onset.

Meanwhile, departments such as Spokane felt more favorable toward the BWCs, increasing from 39.3% to 57.3%. Tempe even increased from their already high 63.3% to 66.4%. While implementation and policy may have been different amongst the departments, the only concrete difference was that Phoenix selected Vievue cameras while the other departments went with Axon. By the end, the departments who chose Axon over Vievue also found the BWCs to be easy to use, comfortable to wear, and easy to download (Gaub et al., 2016).

Theoretical Framework

Much of the theoretical framework behind BWCs can be traced to Deterrence and Rational Choice Theories. As stated by Quackenbush (2011) “Deterrence is the use of a threat by one party in an attempt to convince another party to refrain from some action” (p. 2). While not an outright threat, BWCs threaten to create irrefutable evidence of any actions that are illegal or improper. While the offender is continuously under threat of being held accountable during the police contact, the officer is also under threat by their administration if they act inappropriately. As a result, an offender may be more compliant with officers if they know their actions are being recorded and could be used against them in any court proceedings. Likewise, an officer may act more appropriately knowing that his or her conduct can easily be reviewed if a complaint is made.

Deterrence is often regarded as most effective when the likelihood of being caught is at its highest. BWCs are excellent in this regard. Unlike stationary cameras where the likelihood of being caught can be impacted by the quality of the camera footage, the offender’s ability to conceal their identity from cameras, and their ability to commit the crime elsewhere (Ariel et. al, 2018). BWCs nearly eliminate the ability of the officer or the offender to hide their identity. Additionally, the results of police contact may be more absolute, as an officer’s discretion to arrest may be limited by the fear of later scrutiny by a supervisor. Further, if arrested, the likelihood of prosecution and conviction may increase due to the presence of video evidence.

While the threat of discipline for improper or illegal activity may increase, it is not the only deterrent offered by BWCs. If the video is made available to the public, the offender and officer may be shamed by the media and the public. Kohm (2009) identified that “shame and humiliation in criminal justice have become increasingly commodified, enacted, and experienced

through hybrid forms of media that blur the boundaries of reality and entertainment” (p. 188). The popularity of shows such as *To Catch a Predator*, *COPS*, and, more recently, *LIVE PD*, have shown there is a market for the public shaming of offenders. Likewise, it has become popular for news outlets and media organizations to report and scrutinize police use of force incidents. Increasingly, social media has made this situation worse, as there is no accountability for the information presented. As such, false narratives and inaccurate information can spread quickly. This negative publicity can have an offender labeled a criminal for life or destroy an officer and their departments’ credibility for years to come. Kohm (2009) recognized that this form of humiliation “has emerged in recent years as a viable and symbolically rich vehicle for social control when commodified and refracted through the lens of popular culture, the outcomes are unpredictable and may contain the seeds of discontent.” (p. 189). This discontent has only increased as the media has resorted to using a form of infotainment whereby information and entertainment are intertwined. This infotainment “powerfully structures public narratives about crime and crime control. Emotionally charged public narratives of crime may, in turn, contribute to an emotional consensus about crime” (Kohm, 2009, p. 189). Officer involved shootings have demonstrated this in the form of societies mistrust of officers using deadly force in crime control while, at the same time, condoning rioting, looting, and destruction as an acceptable response by the community. After which, little focus is placed on the hundreds of victims created by this type of societal response but instead placed on creating increased oversight for the police nationwide. Seemingly overnight, officer-involved shootings, regardless of their merit, can result in all officers being labeled as untrustworthy and, in some cases, racist. It can even end the careers of involved officers, despite being found to have acted reasonably later.

In the case of Darren Wilson, the officer who shot and killed Michael Brown, the negative publicity he received ultimately led to his resignation. As said best by Michael Brown's attorney, Anthony Gray, referencing Darren Wilson's resignation, "Let's face it: His ability to provide quality police services to the citizens of Ferguson has been severely diminished to vapors by this incident" (Parker & Hennessy-Fiske, 2014). Observations of what occurred in Ferguson and other places across the country showed that even if officers were found to have acted appropriately later, it wouldn't shield them from being labeled a bad cop in the media. The fear of being labeled and the possibility of an individual's actions living on indefinitely on the internet may also increase the deterrent effect of the BWCs.

However, the BWCs alone may not be a deterrent, and the effects may vary greatly depending on the amount of discretion an officer has to initiate a recording. The deterrent effect may also be impacted by the extent the offender knows he or she is being recorded. Ariel et al. (2018) point out that these effects may only deter crime in ways similar to those realized by surveillance cameras which are effective at reducing minor incidents such as property crimes. Unfortunately, they have not been shown to influence violent crimes, possibly because these crimes occur when emotions are high, and the offender is not thinking rationally.

In line with Deterrence Theory, BWCs offer a way to deter negative conduct by increasing the likelihood that discipline for inappropriate conduct will be swift, certain, and severe. As Ariel et al. (2018) stated, "all unjustified or disproportional use of force is a result of poor judgment calls, and officers are less likely to deviate from protocol when they are being observed by BWCs. Transparency inevitably leads to great accountability, and when following protocol, officers are less likely to make a wrong decision" (p. 15).

On the other hand, Rational Choice Theory may provide some insight during circumstances not fully explained by Deterrence Theory. While Deterrence Theory may explain why officers and offenders would avoid acting inappropriately in front of BWCs, it does not explain why poor decisions are still occurring when the chances of being caught are so great. Rational Choice Theory may help explain this aspect. Clarke and Cornish stated that most people live in “bounded reality,” and “people do not have all the information they need, the time and willingness to explore alternative options, or even a clear preference ranking among alternative options” (Eck, 2010, p.3). Based on this, Eck found “people make quick and dirty decisions, based on limited information, with the rough objective of picking an alternative that is good enough (it might not be the best, but judged in the specific circumstances it is probably not the worst)” (Eck, 2010, p. 3). In the case of use of force incidents, this may be true of the officer and the offender. During these incidents, decisions must be made at a moment’s notice and typically are made without the benefit of considering all available information. This may explain why offenders will fight with officers, committing a felony and making their situation worse, when they may have only committed a minor infraction. Likewise, officers have mistakenly shot people with cell phones and other objects in their hands, possibly due to the limited time to evaluate the threat. Despite how bad these incidents may appear, it’s likely the officers believed they were making a vital decision to protect their own life or someone else’s at the time.

Kinney (2010) further explained the decision-making process and stated the following assumptions are made regarding human nature in Rational Choice Theory. First, efforts are made to accomplish tasks with the least amount of effort regardless of social norms. Second, actions are then weighed against potential costs and benefits. If the benefits are greater, the task is considered. In considering whether to complete the task, one accounts for environmental factors,

past experiences, and past outcomes in similar situations. A decision will then be made in self-interest. Lastly, apart from the decision to commit a crime, offenders and non-offenders tend to be alike. In evaluating police-involved shootings, for example, one would argue that the task of discharging a firearm takes little effort. Discharging the firearm could then be evaluated in terms of costs and benefits such as bad publicity and moral dilemmas for taking life versus the possibility of losing one's own life. Finally, environmental factors (i.e., distance to the offender and the presence of innocent bystanders), past experiences such as previous deadly encounters, and the results of those encounters (i.e., negative publicity, discipline, etc.) are considered. Afterward, a decision will be made in self-interest. In the case of an officer-involved shooting, preservation of one's own life, career, or returning safely home to his/her family may come into play.

Kinney (2010) further recommended crime could be reduced under Rational Choice Theory by doing the following: (1) increasing the risk of committing the act, (2) reducing the reward for committing the act, (3) making it more difficult to complete the act, (4) removing excuses for committing the act, and (5) reducing the provocation and temptations for the criminal act. BWCs offer a way to reduce the chances of an offense by the officer or subject at each juncture. They increase the chances of being caught or disciplined for any inappropriate activity by creating a record of the contact and making it more difficult to complete and get away with any impropriety. Additionally, the presence of the BWC can create a situation where one or both parties act more appropriately, thereby reducing provocations. Further, the ability to make excuses or cover one's tracks will be limited to the actual events captured by the BWCs. This may lead to increased compliance with policy and law.

Unfortunately, the availability of time to make decisions as referenced in bounded reality may dictate the officer's decision, regardless of the presence of BWCs. While offenders are attempting to decide whether to fight, flee, or surrender to the officer's will, officers are deciding on an appropriate course of action based upon policy, law, and the totality of the circumstances. In some cases, officers will have time to determine the most appropriate course of action. In other situations, decisions are made under stress, while adrenaline is pumping, and without the time to consider all things in the environment. In these instances, the need for a quick decision may result in deviances from policy and procedure that could result in severe consequences.

Totality of the Circumstances

While BWCs may impact situations where officers have time to analyze the situation and develop a plan in accordance with policy, it is doubtful it will have an impact on situations that evolve quickly and could have outcomes detrimental to the life of the officer. Logically, it makes sense to analyze these types of situations by comparing them with their corresponding policy and similar incidents, but this may not be appropriate. In situations such as this, officers have one chance to decide without the benefit of hindsight if it goes wrong. Likewise, there is no way to guarantee that, if an officer acted differently, they would have realized a more positive outcome. On occasion, the wrong decision may have the optimal outcome, but in others, the right decision may have dire consequences.

Additionally, BWCs should not try to correct all officer activity that the public may deem as inappropriate. One example of this is the use of profanity. Ariel et al. (2018) argue that profanity may be acceptable in certain situations such as gaining control over aggressive or dangerous street offenders. However, she also argues it should not be considered permissible in other public interactions. While the offensive language may be seen as vulgar in some

circumstances, some police contacts may improve with the use of casual vulgarity in conversation. In these cases, it may humanize the officer and may ease tensions in a situation. Further, vulgar language may be very effective when dealing with individuals who use vulgarity as part of their normal dialect, rather than in a demeaning or insulting way.

As a result, discipline regarding BWCs should not be considered black and white based on the event but should consider the totality of the circumstances. Officers should also understand there is a risk to using profanity and if unwelcomed during conversation may result in discipline. As such, policies should be considered guidelines rather than instructions with a start point and set of steps towards a singular outcome.

Purpose of this Study

As seen in the Michael Brown officer-involved shooting, BWCs offer many benefits. The focus of this study was to determine if those benefits were realized through the perception of the officers. As officers are those responsible for carrying, activating, and safeguarding the BWC footage, it is important to address problem areas with the implementation of the BWCs. Also, if officers perceive the cameras as a benefit over time, it may help to dispel fears within other agencies and assist with future deployments. By documenting officer's trials and tribulations during the implementation process, other departments may be able to learn from them and improve upon their own implementation process. This study focused on the perceptions of officers from a police department in the Midwest during the time immediately preceding and following a six-month pilot study on BWCs. The goal of this study was to examine changes in officer's perceptions over time, possibly due to increased familiarity and comfort with BWCs. Further, this study focused on identifying differing perspectives based on age, gender, race, education, experience, and shift assignment. Differences found based on demographic

information could be used by agencies to develop different strategies, or to put in place additional training to target those differences.

Limitations on Previous Research

Few previous studies focusing on law enforcement perceptions of BWCs exist. However, those that do seem to be limited to agencies in Arizona, California, Florida, and Washington. This review has located no research on police perspectives of BWCs in the Midwest or Northeastern portions of the US. While this study does not resolve this, it does provide an opportunity to expand this research to the Midwest. Further, while studies often consider officer's perceptions, they rarely expand on these perceptions as it applies to experience, age, education, or shift.

CHAPTER III: METHODS

Background

This study focused on an individual department and was limited to patrol officers and supervisors, but it will ultimately be incorporated into a larger study on police perceptions of BWC in Midwest agencies. This study focused on a pilot program with AXON cameras which were deployed to an entire department for evaluation. However, a smaller pilot program was conducted prior to this one with what could be considered the departments preferred vendor. This preference was largely due to the ease at which the BWCs from this vendor would be capable of integrating with other products owned by the same vendor. Ultimately, the department decided to discontinue the trial with this camera, in part due to poor battery life which resulted in officers having to charge the camera during the shift. The same vendor presented the department with an updated version of the BWC later, but this resulted in a similar outcome. As a result, the department sought out other vendors and began a small trial with approximately five officers using the Axon Cameras. During the small pilot with Axon, most of the issues experienced from the original vendor were not observed.

After the smaller trial with Axon concluded, the department secured additional cameras for a more extensive pilot program encompassing all uniformed officers. The additional cameras added to the pilot program were distributed to patrol officers in eight waves over two months. The total length of the expanded pilot program was six months, but the length of time officers had the cameras varied based on when the officer was issued their BWC. This method was used to allow the more tech-savvy officers to become comfortable with BWC, which would, in turn, allow them to assist the less tech-savvy officers. This slower implementation strategy was also used to help identify and address problems as they occurred, rather than becoming overwhelmed

with issues caused by the deployment of all the cameras at once. The purpose behind the expansion of the pilot study was to identify problems with BWCs not fully realized when tested on a smaller scale. The expanded deployment of the BWCs hoped to identify the infrastructure changes needed to accommodate the increased bandwidth of uploads, accessibility to more computers to review evidence, and a system for providing access to the BWCs footage by other agencies such as the States Attorney's office.

Additionally, the pilot program allowed the department an opportunity to evaluate policy deficiencies such as when a recording should be started, how they should be logged and identified as evidence, and how access to the footage should be controlled. With that, the department had to ensure these policies and procedures aligned with the applicable state statute concerning BWCs. These statutes, at least in Illinois, limited some of the discretion departments had in the creation of these policies.

Issues such as when an officer is permitted to view their BWC video, for instance, are addressed under the statute and allow for officers to view their video before writing a report. However, officers must indicate whether they watched the video in their report or by using some other form of documentation (Illinois General Assembly, 2016). Software such as that made by Axon has built-in functionality allowing officers to comment or add notes to their videos or evidence, as well as an audit trail which documents who watched the video and when (Axon Enterprises, 2018). Otherwise, this can be completed by simply adding a statement to this fact in a police report.

Other problems also needed to be addressed to include dealing with an accidental recording of sensitive information, equipment issues such as the ease by which BWCs fall off, and union issues as they related to discipline and safety. This pilot program also helped evaluate

the overall quality and capability of the AXON BWCs which assisted in determining they were an appropriate fit for this police department. It also served as a means by which to identify unforeseen financial and logistical costs such as officer workload and effects on job performance. The information gathered by this pilot program was used to help community leaders decide if they were going to invest in a long term BWC program.

Research Questions

This study focused primarily on two research questions.

1. How do officers' perceptions differ by factors such as age, education, gender, shift assignment, etc.?

This researcher hypothesized younger officers, especially those with higher levels of education and less time in law enforcement, would perceive BWCs as a substantial benefit and realize fewer issues during their deployment. I speculated this result might be due to the increased technology younger generations have grown accustomed to in their lives, and the lack of experience operating in any other fashion.

2. How officers' perceptions towards BWCs changed over time, and if these changes differed by officer demographics or assignments?

This researcher hypothesized officers would become more comfortable with the cameras as they became more accustomed to using them and they could focus on using the information gathered by the BWCs rather than the intricacies of using them. However, it was also believed these changes would differ by shift primarily due to the differing workloads and amount of downtime found on each of the shifts. For instance, the afternoon shift (second shift) may consistently respond to several calls during a shift with little downtime for report writing. Time for administrative tasks or report writing are typically accomplished by other officers covering

calls for that period. While most might agree that BWCs capture excellent evidence and can result in fewer allegations of police misconduct, most officers on the afternoon shift may not feel these benefits were worth the increased workload and amount of time officers would need to stay at work later to complete reports.

In contrast, it was hypothesized the shift with the most positive view of the BWCs would be the night or third shift. While this shift experiences a heavy call volume late at night, a large portion of the shift experiences long periods with few calls for service, especially in the early morning hours. This provides third shift an opportunity to prepare reports with limited interruptions and enough time to complete them before shift change.

Lastly, it was hypothesized that day shift would fall somewhere between these two shifts. While their call load is similar to second shift in their distribution, this shift benefits from fewer calls overall and less incidents which require reporting such as domestic violence. This shift may also benefit from more time between calls.

Sample

The overall sample for this study will be derived from officers in the uniformed divisions of various Midwest departments. However, this portion of the study drew from a convenience sample of members willing to participate from one department. All members of the uniformed division ultimately received the BWCs (approximately 70) and were asked to complete the survey. I, the researcher, am currently employed by this agency and thus had unrestricted access to distribute and collect the surveys as needed.

This study involved an agency of over 100 officers serving a community of more than 78,000 citizens. Over 50% of the citizens were female. The community was approximately 77% Caucasian, 11% African American, 8% Asian, and 5% Hispanic. The median age of the

community was estimated to be approximately 34 years old (United States Census Bureau, 2016). According to the 2010 Census, approximately 63% of the homes were occupied by their owners and 37% were occupied by renters. Approximately 45% of these households were occupied by traditional husband/wife families, while approximately 14% were single-parent households, and approximately 40% were non-family households.

According to UCR statistics from 2016, this community realized 983 batteries (600 domestic batteries), 146 violations of the Controlled Substances Act, 648 incidents of criminal damage to property, 43 incidents of criminal sexual assault, 55 incidents of sex offenses, 59 incidents involving deadly weapons, 498 incidents of deceptive practices, 358 incidents of disorderly conduct, 60 incidents of robbery, 783 incidents of theft, 742 incidents of domestic dispute, and 88 incidents of interfering with public officers.

In 2016, 21 residents filed citizen complaints. Of those, five were allegations of excessive force. Only two of 21 allegations were sustained by the police department (Valente, 2017). In 2017, the department received a total of 19 complaints with only one complaint having been sustained overall which concerned attention to duty.

Survey/Instruments

The surveys used in this study were created by another researcher not directly involved in law enforcement. This was done to reduce the possibility of bias in the survey questions. Afterward, surveys were administered prior to officers being issued BWCs and again at the conclusion of the pilot program, approximately six months after the last wave of officers receive their BWCs. As previously stated, this study will be incorporated into a larger study on BWCs. The larger study provided for surveys to be completed online. However, for this portion of the study, surveys were only distributed to officers in printed form. The first round of surveys were

completed by officers during the initial training they received prior to being issued cameras. This researcher was present during several of the training classes for questions and to hand out surveys. The remainder of the classes relied on the instructors to distribute the surveys to officers during the training. Each survey had a copy of the informed consent paperwork attached to the top. This page also contained information on the purpose of the study, procedures, risks, benefits, privacy, and contact information.

After the initial surveys were completed, they were placed into manila envelopes so that officers could maintain anonymity. Each wave of surveys was labeled with the date and whether the class was a supervisor class. This researcher attended the supervisor class but did not complete a survey. After the surveys were turned in, lunch was purchased for each class as compensation for completing the surveys.

During the second round of surveys, which occurred in late 2018, surveys were administered during shift briefings. A meal was also provided to officers after the completion of the second round of surveys. This researcher administered the surveys during several briefings until saturation, and it was believed most available officers had an opportunity to complete the survey.

The initial surveys consisted of 48 questions (Appendix A) aimed at gathering officers' perceptions of the BWCs. Of the 48 questions, 21 were Likert-scale questions which focus on officer behavior, changes in citizen behavior, workload, quality of evidence in court, and privacy concerns. There were four possible responses provided for the Likert questions ranging from "Not at all Likely" to "Very Likely." Additionally, the surveys contained Likert questions pertaining to attitudes towards the department's implementation process and personal feelings towards the BWCs. Several open-ended questions were also included to allow officers to clarify

or expand on their responses in areas such as privacy, discretion, and benefits to police and community. Finally, a series of demographic questions such as years of service, age, gender, race, education, and current shift assignment were asked to assist with analysis of the changes in perception. The second round of surveys also contained a question to ascertain if the participant is a supervisor. This was initially not needed as all of the supervisors were in the same class and were separated from the other surveys.

Once the six-month pilot program had been completed and the second set of surveys were administered, the data was combined in SPSS Statistics Software. From there, the results were analyzed using independent sample t-tests, mean comparisons, and Pearson's correlations to determine differences in perceptions based on demographic information, and how perceptions of the BWCs changed among officers over time.

As mentioned before, this study is part of a more extensive study being conducted at Illinois State University. IRB approval for the first and second round of surveys was submitted and granted for this portion of the study in the form of an amendment to the original IRB Approval for the more extensive study.

Variables

This study aimed to explore if there was any significance to the officer's perceptions based on several demographic factors. One possible reason for these differences may be due to the access different segments of the population have to and their willingness to learn new technologies. For instance, younger generations are more accustomed to having their entire lives made public for the world to see through social media platforms. Millennials, for instance, have grown up during an era in which technology touches nearly every facet of their lives and has become a requirement to interact with their peers. Not only this, but technology is rapidly

changing at rates never before witnessed, and younger generations have become more accustomed to learning new technologies quickly to continue interacting with their peers and colleagues.

In contrast, older generations may have trouble learning new software and may be slow to change. They may not feel a need to learn new technologies and may not be impacted by the latest fads such as a new phone. Instead, members of older generations may struggle to learn existing technologies and may not be anxious to give up that which they were most comfortable with. After all, the older generations were not forced to develop the skills to learn new software quickly, as, until recently, technology developed much slower and people were allowed more time to acclimate to it.

Other factors may impact this as well such as an officer's shift, experience, or education, which may result in differing workloads and how efficiently officers work, especially when it comes to administrative tasks such as report writing. The effects of these difference may be more pronounced by shift due to the increased workload and decreased downtime experienced among different shifts. Possibly impacting this even further, the shifts with the highest call volumes also tend to be where the least experienced officers have to work as a result of having lesser seniority.

For this study, basic demographics such as age, race, and gender were used as independent variables. Additional independent variables consisted of officer age, experience, education, rank, and shift assignment.

The dependent variables of this study consisted of the remaining questions on officer perceptions. However, several broader categories of dependent variables were examined to include officer's perceptions of citizen complaints, use of force, evidence collection,

citizen/officer privacy, officer safety, officer's overall feelings towards BWCs, and impact on job performance. See Appendix A for further on the survey questions.

Considerations and Observations

The implementation of the BWC program as it relates to this researcher presented some challenges. My occupation and position in the organization exposed me to perspectives from every level within the police department. During the pilot program, I attempted to maintain an open mind to everyone's perspectives. The administration of the department was focused on the benefits the BWC presented such as reduced complaints and being able to quickly determine whether complaints were sustained or not. This researcher was able to personally experience some of these benefits and was able to review complaints regarding officer behavior and almost immediately respond to concerns raised by citizens.

The positive aspects aside, I also realized an increased workload due to the availability of digital evidence in reviewing use of force incidents and the increased documentation requirement, which increased the number of reports needing to be approved. While I used the BWC occasionally, it is important to acknowledge my perspective on the actual use of the cameras was limited due to my more administrative role. However, during those incidents when I did use the BWC, I found the digital evidence helpful in documenting the facts in a written report, but also noticed that the time it took to complete a report increased significantly due to the need to make the video and report mirror one another. In contrast, when preparing a report from memory, the time is usually reduced.

While reports from memory and those completed after reviewing the video contain approximately the same information, the importance of having a report match a BWC video as closely as possible comes into play during court proceedings. During testimony, defense

attorneys may seek to undermine officer testimony by showing inconsistencies between the report and the video. An argument can be made that the report should mirror the video. However, several factors impact this. For example, the officer's perspective may be different than what the camera was able to catch, or something may have happened off camera. Further, the order of events and statements made by witnesses may not be consistent, forcing the officer to write a report in a logical order that would make sense to the person reading it and not necessarily a transcript of the incident.

Frequently, officers have a limited amount of time to prepare reports and are unable to watch every video from start to end while completing reports. Reports that are an exact account of what was captured on the BWC may be preferred but could be impractical. Often, a report is prepared in sections in between other calls for service. Simply put, in many cases, there is not enough time in a shift to handle all the calls for service and watch all of the BWC footage. In some cases, overtime may be an option, but requiring officers to work overtime every day to accomplish this would surely be considered a change in working conditions.

During the pilot program, BWCs appeared to impact afternoon shift more than other shifts. This was largely in part due to there being few periods of downtime for report completion during the shift. While most officers were able to keep up with the increased workload, those officers who were more active or worked in areas with high call volume quickly found themselves falling several reports behind. Officer specific issues also played a role in the officer's ability to deal with the increased workload. For instance, officers who typically write very detailed and lengthy reports were impacted more than those who wrote shorter more concise reports. Individual skills such as typing speed and how comfortable the officer was with technology also seemed to play a role.

CHAPTER IV: RESULTS

Descriptive results for the respondents of both waves of this study are shown in Table 1. The results indicate the respondents were predominantly white (94.2%) and male (93.3%). The ages of the respondents were 22-30 years old (20.9%), 31-40 years old (41.8%), 41-50 years old (32.8%), and over 50 years old (4.5%). The highest levels of education completed by respondents were High School/Some College (24.3%), Associates Degree (16.0%), Bachelor's Degree (54.9%), and Master's Degree (4.9%). The policing experience of respondents were five years or less (20.5%), 6-10 years (16.7%), 11-15 years (19.7%), 16-20 years (18.9%), 21-25 years (14.4%), and over 26 years (6.1%). Of those who responded 35% were on first shift, 34.1% were on second shift, 26.8% were on third shift, and 82.3% were in non-supervisory positions.

Independent Samples Test (All Respondents from Both Waves)

An independent-samples t-test (Table 2) was conducted, similar to those done by other studies, to compare differences in perspectives from Wave 1 and 2 (Headley, Guerette, & Shariati, 2017; Katz et al., 2014). Three variables reached significance, and one variable neared significance. Of the variables that reached significance, the first was whether they had ever worn a BWC. There was a significant difference in the scores for Wave 1 ($M = 0.13$ $SD = 0.33$) and Wave 2 ($M = 1.00$, $SD = 0.0$) conditions; $t(79) = -23.52$, $p = 0.00$. These results suggest that, as expected, more officers wore BWCs in Wave 2 than in Wave 1 of the surveys.

The next independent-samples t-test which resulted in significance compared whether respondents from Wave 1 or 2 believed the BWC would make the community safer. There was a significant difference in the scores for Wave 1 ($M=1.94$ $SD=0.96$) and Wave 2 ($M=1.64$, $SD=0.80$) conditions; $t(142) = 1.98$, $p = 0.05$. These results suggest after having the BWCs for six months, officers were less inclined to believe the BWC made the community safer.

Table 1

Respondent Descriptive Results

	<i>Pre-Test</i>		<i>Post-Test</i>		<i>Total Cases</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
	80		64		144	
Race	77		61		138	
White		94.8		93.4		94.2
Other		5.2		6.6		5.8
Sex	75		59		134	
Male		94.7		91.5		93.3
Female		5.3		2.0		6.7
Age	75		59		134	
22-30		18.7		23.7		20.9
31-40		41.3		42.4		41.8
41-50		37.3		27.1		32.8
50+		2.7		6.8		4.5
Education	80		64		144	
H.S./Some College		20.0		29.7		24.3
Associate degree		18.8		12.5		16.0
Bachelor's degree		57.5		51.6		54.9
Master's degree		3.8		6.3		4.9
Years of Service	72		60		132	
0-5		19.4		30.0		20.5
6-10		15.3		18.3		16.7
11-15		19.4		20		19.7
16-20		23.6		13.3		18.9
21-25		16.7		11.7		14.4
26+		5.6		6.7		6.1
Shift	73		50		123	
First Shift		37.0		32.0		35.0
Second Shift		34.2		34.0		34.1
Third Shift		21.9		34.0		26.8
Other		6.8		0		4.1
Position	80		61		141	
Patrol		80.0		85.2		82.3
Supervisor		20.0		14.8		17.7

The final independent-samples t-test conducted on both waves of respondents was included because it neared significance with a p value of 0.055. This independent-samples t-test

compared whether respondents from Wave 1 or 2 believed the BWC would encourage officer compliance with department rules and policies. There was a notable difference in the scores for Wave 1 (M = 3.08 SD = 0.76) and Wave 2 (M = 2.81, SD=0.88) conditions; $t(140) = 1.93, p = 0.06$. However, as already mentioned, these differences did not rise to the level of significance. Regardless, this would suggest after having the BWCs for six months; officers were less inclined to believe the BWC would encourage officer compliance with department rules and policies.

Table 2:

Independent Samples Test – Wave 1 and Wave 2

	<i>Pre-Test</i>		<i>Post-Test</i>		<i>p</i>
	mean	n	mean	n	
Have you ever worn a BWC? *	0.13	80	1.00	64	.00
	SD (0.33)		(0.00)		
Do you believe the BWC will make the community safer? *	1.94	80	1.64	64	.05
	SD (0.96)		(0.80)		
Do you believe the BWC will increase the probability of prosecution and/or conviction? *	3.38	80	3.00	64	.00
	SD (0.66)		(0.82)		
Do you believe the BWC will encourage officer compliance with department rules and policies?	3.08	79	2.81	63	.06
	SD (0.76)		(0.88)		

* t-test significant at $p < .05$

The remainder of the variables did not produce significant results. This was to be expected among the demographic questions, as the same group was surveyed with little change to its makeup. However, the remainder of the variables produced no significant difference. This suggests the six-month trial did little to change the officer's responses to the survey questions when comparing all the officers in each wave. However, several other variables reached significance using the independent-samples t-test when first and second shift were evaluated individually. No responses for third shift reached significance between Wave 1 and Wave 2.

Table 3

Independent Samples Test – Second shift – Wave 1 and Wave 2

	<i>Pre-Test</i>		<i>Post-Test</i>		p
	mean	n	mean	n	
Make police officers safer *	1.68	25	1.24	17	.03
SD	(0.80)		(0.44)		
Increase the probability of prosecution or conviction *	3.20	25	2.71	17	.04
SD	(0.71)		(0.77)		
Provide more accurate account of incidents *	3.25	24	2.44	16	.01
SD	(0.79)		(1.03)		
Improve the quality of evidence *	3.44	25	2.69	16	.00
SD	(0.71)		(0.79)		
Exonerate Formal Complaints *	3.38	24	2.59	17	.01
SD	(0.58)		(0.94)		
Decrease resistance by citizens *	1.60	25	1.24	17	.05
SD	(0.71)		(0.44)		
Produce more honest interviews *	2.00	25	1.35	17	.01
SD	(0.91)		(0.61)		

* t-test significant at $p < .05$

Independent Samples Test (Second Shift Respondents)

Table 3 shows the results of an independent-samples t-test comparing responses from Wave 1 and 2 using only respondents from second shift. Several of these responses reached the level of significance. The first of these responses was whether respondents believed BWCs made police officers safer. There was a significant difference in the scores for Wave 1 ($M = 1.68$ $SD = 0.80$) and Wave 2 ($M = 1.25$, $SD = 0.44$) conditions; $t(38.52) = 2.31$, $p = 0.03$. These results suggest that fewer officers believed BWCs would make them safer at the conclusion of Wave 2.

The next response reaching significance on second shift was whether respondents believed the BWCs would increase the probability of prosecutions and/or convictions. There was a significant difference in the scores for Wave 1 ($M = 1.68$ $SD = 0.71$) and Wave 2 ($M = 1.25$,

SD = 0.77) conditions; $t(40) = 2.14, p = 0.04$. These results suggest that after having the BWCs for six months, officers on second shift were significantly less likely to believe BWCs would increase the chances of prosecution or conviction.

Responses regarding whether second shift respondents believed the BWCs would provide a more accurate account of incidents were also found to be significant during independent samples t-test. There was a significant difference in the scores for Wave 1 ($M = 3.25, SD = 0.79$) and Wave 2 ($M = 2.44, SD = 1.03$) conditions; $t(38) = 2.81, p = 0.01$. These results suggest that, after officers on second shift had the BWCs for six months, they were less likely to believe they would provide more accurate accounts of incidents.

An independent-samples t-test was conducted to compare whether respondents from Wave 1 or 2 on second shift believe BWCs would improve the quality of evidence. There was a significant difference in the scores for Wave 1 ($M = 3.38, SD = 0.58$) and Wave 2 ($M = 2.59, SD = 0.94$) conditions; $t(39) = 3.16, p = 0.00$. These results suggest that, after officers on second shift had the cameras for six months, they were less likely to believe the BWCs would improve the quality of evidence.

The next response reaching significance on second shift was whether respondents believed the BWCs would exonerate officers during formal complaints. There was a significant difference in the scores for Wave 1 ($M = 0.13, SD = 0.33$) and Wave 2 ($M = 1.00, SD = 0.0$) conditions; $t(24.45) = 3.07, p = 0.01$. These results suggest that officers on second shift were less likely to believe the BWCs would exonerate officers during formal complaints.

Responses from second shift regarding whether they believed the BWCs would decrease resistance by citizens were also found to be significant. There was a significant difference in the scores for Wave 1 ($M = 1.60, SD = 0.71$) and Wave 2 ($M = 1.24, SD = 0.44$) conditions; $t(39.73)$

= 2.06, $p = 0.05$, which suggests officers on second shift were less likely to believe the BWCs would decrease resistance by citizens after the second survey.

Table 4

Independent Samples Test – First Shift – Wave 1 and Wave 2

		<i>Pre-Test</i>		<i>Post-Test</i>		
Increase the probability of prosecution or conviction *	SD	3.44 (0.58)	27	3.06 (0.574)	16	.04
How do you feel when another officer arrives on scene and is wearing a BWC *	SD	2.65 (0.80)	26	3.19 (0.66)	16	.03

* t-test significant at $p < .05$

The final response reaching significance on second shift was whether respondents believed the BWCs would produce more honest interviews. There was a significant difference in the scores for Wave 1 ($M = 2.00$ $SD = 0.91$) and Wave 2 ($M = 1.35$, $SD = 0.61$) conditions; $t(40) = 2.56$, $p = 0.01$. This may imply officers on second shift were less likely to believe the BWCs would produce more honest interviews after having them for six months.

Independent Samples Test (First Shift Respondents)

Table 4 shows the results of an independent-samples t-test comparing responses from Wave 1 and 2 using only respondents from first shift. Only two of these responses reached the level of significance. The first of these responses was whether respondents believe BWCs increased the probability of prosecutions and/or convictions. There was a significant difference in the scores for Wave 1 ($M = 3.44$ $SD = 0.58$) and Wave 2 ($M = 3.06$, $SD = 0.57$) conditions; $t(41) = 2.10$, $p = 0.04$. These results suggest that, similar to second shift, first shift officers were less likely to believe the BWCs would increase the probability of prosecution or conviction after six months.

The only other response reaching significance on first shift concerned how officers felt when other officers arrived on scene wearing a BWC. There was a significant difference in the scores for Wave 1 (M=2.65 SD=0.80) and Wave 2 (M=3.19, SD=0.66) conditions; $t(40) = -2.25$, $p = 0.03$. These results suggest that officers on first shift felt more positively about another officer arriving on scene wearing a BWC after the six-month study. However, this was to be expected as nearly all respondents were wearing a BWC themselves after six months.

Mean Comparison of All Respondents

Table 5 compares the means of the responses from the surveys for Wave 1 to Wave 2 of the study. Overall several responses were notable. Regarding complaints and compliance with departmental policy, 75% of officers believe BWCs were somewhat to very likely to reduce false claims of misconduct. There was no change in this perception between Wave 1 and Wave 2. Most officers were also somewhat to very likely to believe the BWCs would encourage compliance with departmental rules and policies. This belief declined by over 13% over the course of the study, and this reduction was significant.

At the same time, officers believed there was a little to no likelihood the BWCs would allow situations to be resolved with lesser amounts of force. While a greater percentage of officers believed the BWCs would influence the amount of force by the end of the study, over 80% still believed the BWCs would have little effect on the use of force. Even with the belief the amount of force was not likely to change, the majority of officers believed it was at least a little likely the BWCs would make them slower to respond or second guess the use of force during a response to aggression. The majority of officers were also more likely to believe there was to no likelihood the cameras would impact the number of arrests they made. This belief remained virtually unchanged between Wave 1 and Wave 2.

Table 5

Mean Comparisons of All Officers

	<i>All Officers</i>	
	<i>Pre %</i>	<i>Post %</i>
BWC will reduce false claims of misconduct?	75.0	75.0
Encourage compliance with dept. rules & policies*	77.2	63.5
Allow situations to be resolved with lesser amounts of force	90.0	82.8
Make you slower or second guess the use of force in response to aggression	85.0	78.1
Do you believe the BWC will increase the probability of prosecution and/or conviction? *	92.5	79.0
Do you believe the BWC will make the community safer? *	43.8	54.7
Reduce violent crimes	77.5	78.1
Affect or impact the number of arrests officers make	57.5	57.8
How much has BWC affected the amount of time it takes to handle calls (from dispatch to report submission)?	80.0	90.6
How easy are BWC to use?	81.8	87.1
How do you feel about the deployment of BWCs to officers?	65.0	65.6
Make police work more difficult	72.5	64.1
BWC effect on officer discretion	43.8	35.9

* t-test significant at $p < .05$

Table 5 also shows that more than 90% of officers believed it was at least somewhat likely the BWCs would increase the probability of prosecution and/or conviction. However, by Wave 2, only 79% held the same belief, and the decline was significant. At the same time, over 70% of officers believed there was little to no likelihood the BWCs would reduce violent crime.

Table 6

Mean Comparisons of All Shifts – Part 1 of 2

	<i>1st Shift</i>		<i>2nd Shift</i>		<i>3rd Shift</i>	
	<i>Pre %</i>	<i>Post %</i>	<i>Pre %</i>	<i>Post %</i>	<i>Pre %</i>	<i>Post %</i>
Allow situations to be resolved with less force	92.6	75.0	88.0	88.2	81.3	82.4
Make the community safer	29.6	50.0	60.0	82.4	25.0	29.4
Make police officers safer	81.5	81.2	48.0	23.5*	75.0	70.6
Decreases resistance by citizens	77.8	68.8	88.0	100.0*	93.8	82.4
Produce more honest citizen interviews	63.0	56.3	76.0	94.1*	68.8	58.8
Citizens act differently towards BWC Officers	-	81.3	66.7	52.9	50.0	76.5
Reduce (informal) citizen complaints	85.2	93.7	68.0	52.9	93.7	88.2
Exonerate formal complaints against officers	96.3	100	95.8	52.9*	100	94.1
Increase probability of prosecution/conviction	96.3	87.5*	84.0	64.7*	100	88.2
Provide more accurate account of incidents	96.3	87.5	79.2	43.7*	93.7	94.1
Improve quality of evidence	85.2	100	88.0	50.0*	93.7	94.1

* t-test significant at $p < .05$

In fact, during Wave 1, 43.8% of officers believed the BWCs would have little to no effect on making the community safer. Even more officers (54.7%) felt this way by the end of Wave 2, and this change was found to be significant.

That being said, the overall response to the cameras was positive, with less than 35% of officers responding they felt negative about the deployment of BWCs to officers. Moreover,

close to 81% of officers in Wave 1 also indicated the BWCs were somewhat to extremely easy to use. By the end of Wave 2, even more officers (87.1%) felt the cameras were easy to use. While the response to the BWCs themselves was positive, 80% of officers from Wave 1 believed the BWCs would increase the amount of time it would take to handle calls. By the end of Wave 2, over 90% of officers held this belief. The majority of officers also believed the BWCs were somewhat to very likely to make police work harder, but there was a notable decrease in this belief from 72.5% to 64.1% by the end of Wave 2.

Mean Comparisons of All Shifts

Table 7 compares the means of responses between the different shifts. With regards to use of force, officers' responses from Wave 1 and Wave 2 varied. Officers from first shift were the least likely to believe situations could be resolved with lesser amounts of force with 92% believing the BWCs would have little to no effect. However, by Wave 2, substantially less first shift officers felt this way, with only 75% believing they would have little to no effect on situations being resolved with lesser amounts of force. Over 80% of the respondents from the other shifts, in contrast, believed the BWCs would have little to no effect on situations being resolved with lesser amounts of force and responded nearly identically in both waves.

Shifts also differed on their belief regarding officer safety. While over 80% of first shift officers and over 70% of third shift officers believed it was at least a little likely the cameras would make officers safer, only 48% of second shift officers from the first wave held this belief. There was also a significant decrease in officers from second shift believing it would make officers safer by the end of Wave 2, with only 23.5% of officers believing it was even a little likely the BWCs would make them safer. Likewise, 88% of second shift officers also believed

BWCs would have little to no effect on resistance by citizens in Wave 1, and 100% of officers held this belief by the end of Wave 2.

Consistent with second shift, over 77.8% of first shift officers believed the BWCs would have little to no effect on decreasing citizens resistance. Unlike second shift though, by the end of Wave 2, more officers believed the cameras were likely to decrease citizen resistance. However, 68.8% still believed they would have little to no effect. A similar result occurred on third shift, with 93.8% of third shift officers believing BWCs would have little to no effect on decreasing citizens resistance, but they also had 11.4% more officers believe BWCs would have an effect on resistance by the end of Wave 2.

From the perspective of officers, citizens were also not reacting much different. By the end of Wave 2, 81.3% of first shift officers and 76.5% of third shift officers held that citizens were not acting differently to BWC officers. On the other hand, second shift experienced a significant change between Waves 1 and 2. While 66.7% of officers initially believed citizens would only act slightly or no differently towards them in Wave 1, only 52.9% felt this way after Wave 2.

Officers also did not have a significant change in their belief that the cameras would make the community safer. Only third shift had the majority of officers believing it was even a little likely the BWCs would make the community safer. On the other hand, second and third shift officers, at the end of Wave 2, realized a 20% increase in the number of officers that believed the BWCs were not likely to make the community safer, resulting in 50.0% of first shift and 82.4% of second shift not believing the BWCs would make the community safer.

Officers had differing responses across shifts with regards to evidence and prosecution as well. For instance, across all shifts, the majority of officers believed BWCs would have little to

no effect on producing more honest interviews from citizens. However, first and third shifts observed a decrease in the number of officers who believed the BWCs would have no effect.

Meanwhile, second shift realized a significant increase in officers who believed the BWCs would have little to no effect on the honesty of interviews from citizens, changing from 76.0% during Wave 1 to 94.1% during Wave 2. Second shift realized a similar effect when responding to the likelihood the BWCs would create a more accurate account of incidents or improve the quality of evidence. During Wave 1, all three shifts believed it was at least somewhat likely that the BWCs would provide a more accurate account, with second shift being in the least agreement with 79.2% of officers feeling this way. But, after wave 2, second shift realized a significant reduction in officers who believed it was at least somewhat likely the BWCs would create a more accurate account of incidents, dropping to only 43.7%.

Similarly, second shift also realized a significant decrease in officers who believed it was at least somewhat likely the quality of evidence would improve, dropping from 88.0% in Wave 1 to 50.0% in Wave 2. Meanwhile, the other shifts positions improved with first shift stating 100% of officers and third shift stating 94.1% of officers believed it was at least somewhat likely the BWCs would improve the quality of evidence.

As can be expected, this also yielded in a significant decrease in second shift officers' agreement the probability of prosecutions and convictions would increase, dropping from 84.0% in the first wave to 64.7% in the second wave of surveys. However, first and third shifts also realized a decrease in officers who believed it was at least somewhat likely the probability of prosecution would increase. Further, while only first shift's change from 96.3% and 87.5% was found to be significant, third shift's drop from 100% to 88.2% was considerable as well.

Table 7 also shows officers perceptions regarding the belief the BWCs would be somewhat to very likely to exonerate officers of formal complaints. While first and third shifts had responses from 94.1%-96.3% in agreement with this belief, second shift observed a significant drop to only 52.9% of officers believing the BWCs were at least somewhat likely to exonerate formal complaints. Similarly, while over 80% of first and third shift officers in both waves agreed it was at least a little likely BWCs would reduce informal citizen complaints, only 68% of Wave 1 and 52.9% of Wave 2 second shift officers felt the same.

Table 8 further expands on the difference between the shifts, specifically concerning privacy and officer's overall feelings toward BWCs. All three shifts saw the majority of officers respond the BWCs were likely to affect officer privacy by the end of the second wave. Of these, first shift increased from 51.9% to 68.8%, second shift increased from 76.0% to 76.5%, and third shift increased from 31.3% to 58.8%. In response to how concerned officers were about how it affected privacy, only 43.7% of first shift and 41.2% of third shift officers stated they were moderately to very concerned about their privacy. In contrast, during Wave 1, 76.5% of second shift officers stated they were moderately to very concerned about their privacy at the end of Wave 2, an 8.5% increase.

By the end of Wave 2, more officers also claimed BWCs were very likely to affect citizen privacy, with second shift having the most officers being very likely to believe it would affect their privacy (68.8%), followed by first shift (56.3%), and third shift (47.1%). However, the majority of officers still responded they had little to no concern about citizen's privacy. In fact, 70.6% of second shift officers stated they had little to no concern about citizen privacy at the end of Wave 2, followed by first shift (68.8%), and then third shift (58.8%). Of note, although not significant, a greater number of third shift officers became more concerned about

citizen's privacy at the end of Wave 2, a change of 28.7 percentage points from their Wave 1 responses.

Table 7

Mean Comparisons of All Shifts – Part 2 of 2

	<i>1st Shift</i>		<i>2nd Shift</i>		<i>3rd Shift</i>	
	<i>Pre %</i>	<i>Post %</i>	<i>Pre %</i>	<i>Post %</i>	<i>Pre %</i>	<i>Post %</i>
Affect officer privacy	51.9	68.8	76.0	76.5	31.3	58.8
Affect citizens' privacy	48.1	56.3	68.0	68.8	31.3	47.1
Officer concerns about citizens' privacy while wearing a BWC?	63.0	68.8	66.7	70.6	87.5	58.8
BWC wearing officers' concerns of privacy	51.9	43.7	68.0	76.5	43.7	41.2
Reduce time spent on paperwork	77.8	75.0	88.0	100.0	62.5	76.5
Make police work more difficult	70.4	86.7	88.0	88.2	43.7	47.1
Officers feelings on deployment of BWCs	66.7	81.2	56.0	35.3	81.2	82.4
Officers feelings when another officer arrives on scene and is wearing a BWC	61.5	81.3*	64.0	64.7	50.0	64.7
BWC effect on discretion	48.1	37.5	36.0	29.4	37.5	41.2
BWC likelihood of drawing officer focus away from individuals	77.8	50.0	80.0	88.2	56.2	52.9
BWC increases time to handle calls	0.00	93.8	100	100	50.0	94.1

* t-test significant at $p < .05$

Officers across the three shifts also had differing responses regarding the deployment of the cameras. While first shift (18.8%) and third shift (17.6%) only had a few officers respond that they felt negative about BWCs, 44% of second shift officers felt negative about the deployment of BWCs. This only became more negative during Wave 2, resulting in nearly 65% of second shift officers feeling negative about the deployment of BWCs. A similar finding was

observed in second shifts response to whether BWCs were likely to reduce paperwork, with 100% of second shift stating it was not at all likely. This was not a very large deviation from the other shifts, though, who had approximately 75% of officers respond the same.

Additionally, first and second shifts responses to whether BWCs were at least somewhat likely to make police work more difficult varied greatly from third shift. At the end of Wave 2, 86.7% of first shift officers and 88.2% of second shift officers believed BWCs were at least somewhat likely to make police work more difficult. Meanwhile, only 47.1% of third shift officers felt the same way. One area where first shift differed greatly regarding BWCs involved their response to how they felt about another officer arriving on scene equipped with a BWC. While 64.7% of second and third shift officers felt indifferent, 81.3% of first shift officers now felt indifferent, a significant change from their responses (61.5%) during the first wave.

Pearson Correlation of Both Waves Combined

Tables 7, 8, and 9 show correlations by age, education, experience, shift, and rank (patrol/supervisor) after the results were re-coded in SPSS. Results of the Pearson correlation for both waves combined (Table 9) indicated there were significant positive associations between age and experience ($r = 0.83$, $n = 134$, $p < 0.01$), rank ($r = 0.368$, $n = 134$, $p < 0.01$), whether BWCs would make officers safer ($r = 0.17$, $n = 134$, $p < 0.01$), reduce use of force ($r = 0.17$, $n = 133$, $p = 0.05$), decrease resistance by citizens ($r = 0.18$, $n = 134$, $p = 0.03$), and whether BWCs would make officers slower or second guess responses to aggression ($r = 0.24$, $n = 134$, $p < 0.01$).

There were also significant negative associations between age and shift ($r = -0.41$, $n = 120$, $p < 0.01$), whether they believed citizens acted differently ($r = -0.29$, $n = 67$, $p = 0.02$), and whether they believed BWCs would reduce false claims of misconduct ($r = -0.19$, $n = 134$, $p =$

0.03). Further, results found in Table 9 indicated there was also a significant positive association between education and whether BWCs would make officers slower to respond or second guess responses to aggression ($r = 0.19$, $n = 144$, $p = 0.02$). There was also a significant negative association between education and shift ($r = -0.19$, $n = 123$, $p = 0.04$), as well as how easy officers believed BWCs were to use ($r = -0.25$, $n = 73$, $p = 0.03$).

Table 8

Pearson Correlations – Combined Results of Both Waves

	<i>Age</i>	<i>Edu.</i>	<i>Exp.</i>	<i>Shift</i>	<i>Rank</i>
Age					
Edu.	-0.04				
Exp.	0.83**	-0.07			
Shift	-0.41**	-0.19**	-0.28**		
Rank	0.368**	0.15	0.51**	-0.01	
Easy to Use	0.22	-0.25*	0.06	0.04	0.00
Citizens act differently	-0.29*	-0.15	-0.30*	0.05	-0.19
Equipment difficulties in month	-0.19	0.10	-0.25*	0.22	0.22
Affect on time to handle calls	0.12	0.12	0.06	-0.27*	-0.11
Reduce claims of ofc. misconduct	-0.19*	-0.03	-0.14	0.02	-0.04
Make officers safer	0.17*	0.00	0.30**	-0.11	0.16
Increase Prosecution/Conviction	0.10	-0.01	0.20*	0.05	0.18*
Provide accurate accounts	0.08	0.01	0.20*	-0.05	0.16
Reduce use of force	0.17*	0.11	0.25**	-0.17	0.09
Exonerate formal complaints	0.14	0.01	0.22*	-0.21-	0.17*
Decrease Resistance by citizens	0.18*	0.01	0.20*	-0.17	0.03
Produce more honest interviews	0.13	0.06	0.20*	-0.12	0.01
Slower/2 nd Guess UOF responses	0.24**	0.19*	0.24**	-0.08	0.12

* significant at $p < .05$

** significant at $p < .01$

In addition to those already mentioned, there were also significant positive correlations between experience and whether BWCs would make officers safer ($r = 0.30$, $n = 130$, $p < 0.01$), increase the likelihood of prosecution/conviction ($r = 0.20$, $n = 130$, $p = 0.03$), provide more accurate accounts of incidents ($r = 0.20$, $n = 128$, $p = 0.02$), reduce use of force ($r = 0.25$, $n = 129$, $p < 0.01$), exonerate formal complaints ($r = 0.22$, $n = 129$, $p = 0.01$), decrease resistance by citizens ($r = 0.20$, $n = 130$, $p = 0.03$), whether BWCs would produce more honest interviews with citizens ($r = 0.20$, $n = 130$, $p = 0.03$), and whether BWCs would make officers slower or second guess responses to aggression ($r = 0.24$, $n = 130$, $p < 0.01$). There was also a significant negative association between experience and shift ($r = -0.28$, $n = 117$, $p < 0.01$), whether they believed citizens acted differently ($r = -0.30$, $n = 65$, $p = 0.02$), and equipment difficulties in a month ($r = -0.25$, $n = 65$, $p = 0.05$).

Table 9

Person Correlations – Wave 1

	<i>Age</i>	<i>Edu.</i>	<i>Exp.</i>	<i>Shift</i>	<i>Rank</i>
Age					
Edu.	0.02				
Exp.	0.81**	-0.01			
Shift	-0.37**	-0.23	-0.19		
Rank	0.42**	0.14	0.52**	0.01	
Q20. Likelihood of affecting the number of arrests	0.12	0.02	-0.07	-0.27*	-0.11
Q24. Exonerate formal complaints	0.07	0.22	-0.06	-0.40**	0.14

* significant at $p < .05$

** significant at $p < .01$

Further, shift was also found to be negatively associated with how much the BWCs affected the amount of time to complete calls ($r = -0.27$, $n = 58$, $p = 0.04$), as well as, how likely

the BWCs were to exonerate formal complaints ($r = -0.21, n = 122, p = 0.02$). Rank, on the other hand, was found to be a significant positive association between whether BWCs were likely to increase prosecutions/convictions ($r = 0.18, n = 141, p = 0.03$), as well as, how likely BWCs were to exonerate formal complaints ($r = 0.17, n = 140, p = 0.05$).

Pearson Correlations – First Wave

Correlations from the first wave of surveys (Table 10) indicated there was a significant positive association between age and experience ($r = 0.81, n = 72, p < 0.01$), as well as, rank ($r = 0.42, n = 75, p < 0.01$). There was also a significant negative association between age and shift ($r = -0.37, n = 71, p < 0.01$). Further, results of the Pearson correlation of the first wave indicated there was a significant negative association between shift and the likelihood BWCs would affect the total number of arrests ($r = -0.27, n = 73, p = 0.02$), as well as, whether BWCs would exonerate formal complaints ($r = -0.40, n = 72, p < 0.01$).

Pearson Correlations – Second Wave

Results from the second wave of surveys (Table 9) indicated there were significant positive associations between age and experience ($r = 0.85, n = 59, p < 0.01$), rank ($r = 0.29, n = 59, p = .02$), whether BWCs were easy to use ($r = 0.26, n = 57, p < 0.01$), and whether BWCs would decrease resistance by citizens ($r = 0.27, n = 59, p = .04$). Results further indicated there was a significant negative association between age and shift ($r = -0.52, n = 49, p < 0.01$), as well as, the likelihood BWCs would reduce false claims of misconduct ($r = -0.39, n = 59, p < 0.01$). There was also found to be a significant negative association between education and how easy the BWCs were to use ($r = -0.27, n = 62, p = 0.03$). Results from second wave also indicated, in addition to those already mentioned, there were significant positive associations between experience and whether BWCs made officers safer ($r = 0.43, n = 58, p < 0.01$), improve the

Table 10

Pearson Correlations – Wave 2

	<i>Age</i>	<i>Edu.</i>	<i>Exp.</i>	<i>Shift</i>	<i>Rank</i>
Age					
Edu.	-0.11				
Exp.	0.85**	-0.14			
Shift	-0.52**	-0.11	-0.48**		
Rank	0.30*	0.16	0.49**	-0.08	
Easy to Use	0.26*	-0.27*	0.11	0.07	0.01
Citizens act differently	-0.23	-0.10	-0.35**	0.04	-0.19
Equipment difficulties in month	-0.22	0.13	-0.30*	0.22	-0.17
Reduce claims of ofc. misconduct	-0.39**	-0.09	-0.13	0.25	0.01
Make officers safer	0.23	-0.04	0.43**	-0.08	0.24
Improve quality of evidence	0.18	0.05	0.35**	-0.05	0.20
Reduce use of force	0.20	0.03	0.36**	-0.18	0.15
Affect citizens privacy	0.17	0.00	0.32*	-0.02	0.08
Exonerate formal complaints	0.19	-0.16	0.37**	-0.05	0.18
Decrease Resistance by citizens	0.27*	-0.04	0.31*	-0.15	0.11
Slower/2 nd Guess UOF responses	0.25	0.23	0.27*	-0.33*	0.22
Make policework more difficult	0.17	0.14	0.00	-0.37**	-0.03
Draw ofc. focus from individuals	-0.08	0.05	-0.27*	0.09	-0.23
Allow situations to be resolved with lesser force	0.11	0.01	0.20	-0.08	0.29*

* significant at $p < .05$ ** significant at $p < .01$

quality of evidence ($r = 0.35$, $n = 57$, $p < 0.01$), reduce use of force ($r = 0.36$, $n = 57$, $p < 0.01$), affect citizens privacy ($r = 0.32$, $n = 58$, $p < 0.01$), exonerate formal complaints ($r = 0.37$, $n = 58$, $p < 0.01$), decrease resistance by citizens ($r = 0.31$, $n = 58$, $p = 0.02$), and make officers slower to respond or second guess responses to aggression ($r = 0.27$, $n = 58$, $p = 0.04$).

Table 9 also showed there to be significant negative associations between experience and shift ($r = -0.48$, $n = 48$, $p < 0.01$), whether citizens acted differently ($r = -0.35$, $n = 57$, $p < 0.01$), equipment difficulties in a month ($r = -0.30$, $n = 57$, $p = .02$), and whether BWCs would draw their attention away from individuals ($r = -0.27$, $n = 58$, $p = .04$).

Lastly, results further implied there were significant negative associations between shift and officers believing they would be slower to respond or second guess responses to aggression and ($r = -0.33$, $n = 50$, $p = 0.02$), and the likelihood BWCs were to make police work more difficult ($r = -0.37$, $n = 49$, $p < 0.01$). There was also a significant positive association between rank and how likely officers believed BWCs would allow situations to be resolved with lesser amounts of force ($r = 0.29$, $n = 61$, $p = 0.03$).

CHAPTER V: DISCUSSION

This study focused on two research questions. The first, concerned how officers' perceptions differed by factors such as age, gender, race, education, experience, rank, and shift assignment. This study did reveal several differences between age, education, shift assignment, and rank. However, due to the small sample of females and other races, no analysis was done on the impact these had on the responses.

The second research question concerned how officers' perceptions towards BWCs changed over time, and if these changes differ by officer demographics or assignments. While there were some significant changes among the responses, as realized by the independent samples t-tests, overall officers' responses did not change much over the six-month pilot program. However, several significant changes and relationships were found when evaluating each shift independently.

Privacy

Officers Concerns for Themselves

Officers concerns for their own privacy seemed to be paramount. As one officer responded "We are human, Impossible to act perfectly every second. Who else is audio/video recorded all the time? Our private lives and conversations well come up. Humor will be misconstrued." Another officer pointed out that, "No doctor, lawyer, city manager, CEO, teach, etc. would want most of their day recorded. The whole idea is a little invasive."

These officers were not alone in feeling this way. In fact, the majority of first and second shift officers stated they believed it was very likely BWCs would affect their privacy. Third shift officers, who were the least likely to believe they would be affected during the first survey, saw the largest increase of the three patrol shifts during the second wave. Even with this, second shift

had the most officers (76.5%) who believed it was very likely BWCs would affect their privacy, followed by first shift (68.8%) and then third shift (58.8%).

Despite the majority of officers agreeing there would be an effect on their privacy, the majority of first (56.3%) and third (58.8%) shifts weren't even moderately concerned about the effect. Second shift remained the most concerned, with the vast majority (76.5%) being at least moderately concerned about their privacy. This concern was an increase in their responses from the first survey.

This could be due to several reasons. First, these two shifts handle calls more evenly distributed across their shifts. As a result, a larger portion of the day is spent with the camera on and shorter periods between recordings. Due to this, there is more opportunity for the BWCs to capture private conversations. Second, the ability to have private conversations or communicate with family and friends is the greatest on second shift when most people are awake and off work. This would be followed by first shift, when most people are awake, but may be working. However, first shift officers may need to handle private phone calls to businesses during regular business hours. Third shift, on the other hand, is not likely to have anyone outside of other officers working to communicate with, as most people will have retired for the evening shortly after the start of their shift and businesses are not typically open. This was also found to be consistent with the open-ended responses from the surveys. In fact, 50% of respondents (n=100), the largest response by far, stated they were concerned about accidental recording or BWCs capturing personal conversations and activities. As one officer stated, "Just worried about accidentally recording myself in the bathroom or worried about recording my residence & its location on lunch breaks." This finding was consistent with the concerns of Chicago's FOP during their ILRB decision (ILRB, 2018).

Officers Concerns for Citizens Privacy

Similar to the concern's officers had for themselves, the majority of first and second shift officers believed the BWCs would affect citizens privacy. More experienced officers were also significantly more likely to believe BWCs would affect a citizen's privacy. Third shift, who did not believe it was very likely the BWCs would have an effect during the first wave of surveys, realized an increase to 47.1% (+15.8) by the second wave. Second shift still had the most officers who believed BWCs were very likely to affect citizen privacy with 68.8%, and their responses varied little after six months.

Unlike officers' concerns for themselves, officers stated they had little to no concern for citizens privacy when equipped with BWCs. Only third shift officers were more concerned by the end of the study, but 58.8% still had little to no concern for the BWCs effect on citizen's privacy. Second shift had the greatest number of officers with little to no concern for the citizen's privacy (70.6%). Some insight for officers feeling this way can be found in their responses to the open-ended questions. This included 27% of those who responded indicating they were not concerned because citizens were informed or should have no expectation of privacy during contacts with BWC equipped officers. Another 12% of officers stated they were not concerned because it was the citizens who requested officers be equipped with BWCs. As put by one officer, "Society wants police to wear cameras. The negative impact is something society will have to tolerate." Another officer stated the "community wants us to wear them, if they don't want cameras they need to speak up."

There were, however, officers with concerns. Among those with concerns, 18% of those who responded believed BWCs would discourage open communication between officers and the public. As one officer put it, "People who before didn't want to be a "witness" would still

provide information if left anonymous. Now those people don't." Another officer stated, "People have been less likely to talk to me with info on criminal activity since I am wearing a BWC." Other officers expressed concerns related to confidential informants, indicating they will be "less likely to believe that you are not recording/ less likely to give info." Interestingly, this was consistent with concern presented by the Police Executive Research Forum (PERF) in which they stated citizens might not wish to communicate openly with officers. They also argued it could make it harder for officers to establish relationships within the community (Miller et al., 2014).

Citizen Complaints

As mentioned earlier, this department experiences an extremely low number of citizen complaints. This may become even lower in the future, as supervisors can review BWC video and more immediately address informal complaints received over the phone or in the lobby, decreasing the overall need for citizens to file a formal complaint. This may be, at least in part, the reason why there was a significant relationship between supervisors and believing it was at least somewhat likely BWCs would exonerate officers in formal complaints.

Officers' expectations regarding the exoneration of formal complaints varied widely by shift, especially when comparing both waves of surveys. By the end of the second wave, for instance, every first shift officer and nearly 95% of third shift officers believed the BWCs would exonerate formal complaints. In contrast, a significant decline was realized regarding second shift. While over 95% of second shift officers believed it was at least somewhat likely, BWCs would exonerate them in the first wave, just over 52% felt the same way by the second survey. Interestingly, this researcher is not aware of any complaints that were not exonerated over the course of this study. Still these results are consistent with the findings in Phoenix,

Spokane, and Tempe, where most officers doubted BWCs would increase complaints (Gaub et al., 2016).

Further, this study found relationships between experience and the likelihood of believing BWCs would exonerate formal complaints, whereby more experienced officers were significantly more likely to believe the BWCs would exonerate complaints. This is not surprising when looking at the differences among second shift, where the officers with the least amount of experience are often located. One possibility for this relationship is that more experienced officers are likely to have had a lot more experience with the complaint process or seen other officers go through the complaint process. Many times, formal complaints can neither be proven or disproven as there is a lack of evidence to corroborate the officer's account. The BWC may resolve this by capturing audio/video or both, a luxury that was only found with the in-car camera system up to this point.

A similar finding was found regarding informal complaints, and second shift was the least likely to believe (52.9%) informal complaints would be reduced. This was extremely low when compared to first and third shift where nearly 90% believed it was at least a little likely the BWCs would reduce formal complaints. Still, the results from second shift are somewhat interesting and may be due to an increased number of complaints being addressed without the formal complaint process. As a result, often there is no documentation and officers may not be aware of the reduction to informal complaints.

Despite this, the majority of officers (75%) still believed the BWC's were at least somewhat likely to reduce false claims of misconduct. There was also found to be a significant relationship between younger officers and feeling less likely there would be a reduction in false claims. Somewhat surprising, nearly all three shifts experienced a nearly significant decline in

the belief that the BWCs were at least somewhat likely to encourage compliance with departmental rules and policies. One possibility for this may be that officers realize it is impossible for supervisors to review all of their activity for inconsistencies with departmental rules and policies. Supervisor's responses, on the other hand, improved over the course of the study. This may be due to the increased amount of BWC video they have to review. While supervisors may be addressing issues when they come up, the vast majority of calls for service are going unchecked. A somewhat more positive way to view this would be that the majority of officers already felt they were in compliance with rules and policies. Thus, officers may not feel there were any deficiencies to encourage compliance with. Still, while there was a decrease, the majority of officers (63.5%) believed it was at least somewhat likely the BWCs would encourage compliance

Use of Force

Ariel et al. (2016) found BWCs had little to no effect on the use of force and officers were assaulted at a higher rate when a BWC was present. The findings of this study may indicate a similar result. To begin with, officers from first and second shift overwhelmingly agreed the BWCs would have little to no effect on resolving situations with lesser force. If true, this would also conflict with the Rialto PD findings that BWCs reduced the use of force (Farrar, 2013). At the same time, over 80% of third shift officers and every second shift officer concluded, at the end of the second wave, BWCs would not have an affect on decreasing resistance. Had there been a perceived reduction, it would have been logical to assume officers could respond with lesser amounts of force in response to resistance.

Additionally, over three-quarters of officers agreed it was at least a little likely the BWCS would make them slower to respond to or second guess the use of force in response to

aggression. This may be due to officers fearing their use of force may be looked upon negatively by the department or the public. As a result, officers may be waiting until it is clear they had no choice in their decision to use force even if it was warranted sooner. After all, the use of force rarely looks good on camera and even if officers do things right, it may not save them from years of civil litigation. Additionally, even when the officer actions are appropriate, the corresponding municipality may still settle, finding it is cheaper than becoming involved in lengthy court proceedings. Neither of these results are likely to leave officers anxious to use force.

Lastly, officers are aware that several supervisors will be viewing their BWC footage related to their use of force. While supervisors are not likely to review all of their BWC footage to encourage compliance with policy, supervisors are required to review and scrutinize all use of force incidents. One way officers can avoid this is to avoid using force whenever possible, even if the situation warrants it. However, this may be a great injustice to other officers who have to deal with the same subject again in the future, as the individuals' unchallenged behavior may result in them pushing the limits further next time. This could have far-reaching consequences for both the officer and the subject if more force is required to control the same subject during future contacts.

While it was beyond the scope of this study to determine if this belief was correlated with increased assaults on officers, it is still worrisome that a large number of officers believed it was at least a little likely BWCs were making them slow or second guess their responses. Somewhat curious, older officers, those with more experience, and those with higher levels of education were significantly more likely to feel this way. For good or bad, this may be causing the most experienced officers to change what has been working for them for most of their careers.

Even with this, experienced officers were significantly more likely to believe the BWCs would make officers safer, allow situations to be resolved with lesser amounts of force, decrease resistance, and reduce the use of force entirely. Still, it is somewhat counterintuitive that officers with more experience believed the BWCs would make them slower to respond to responses to aggression, but more likely to believe BWCs would make them safer.

Meanwhile, the shift with the least experience was the least likely to believe the BWCs would make it safer. In fact, only 23% of second shift officers believed BWCs would make them safer by the end of the second wave.

BWCs and The Community

In addition to use of force and complaints, police had varying responses on the effects BWCs would have on the community. The vast majority of officers (78.1%) stated they did not believe violent crime would be reduced by the BWCs. Additionally, by the end of the second wave, most officers felt the BWCs would not make the community safer. This may be linked to officers decline in believing the BWCs would result in increased convictions or prosecutions, discussed more in depth later.

Officers also did not seem to believe their interactions with the community would change much either and seemed not to believe the number of arrests were likely to be affected. Officers also did not seem to believe the BWCs would cause citizens to act differently towards them. However, by the end of the second wave, the results varied. While most officers of first shift and third shift believed citizens reacted slightly different or not at all, only 52.9% of officers from second shift felt this way, which was a drop from the first survey. This was also found to be significantly linked to younger officers and officers with less experience. One possibility for this

may be, in part, due to officers not believing citizens were decreasing their resistance or providing more honest interviews.

Officers may also be to blame for any change in citizens behavior. For instance, by the end of the second wave, just over 60% of officers believed the BWCs could draw their focus away from citizens during interviews. The likelihood of feeling this way was significantly associated with officers having less experience. As one officer stated, “I don’t have to listen, just watch the video later.” If officers become too reliant and possibly even zone out during interviews because they can just watch them later, they may miss important follow-up questions during interviews. Or, even worse from the victim’s perspective, they may come off as unempathetic and disinterested. Not paying attention during interviews may also have dire consequences for the officer as well. For instance, they may miss minor nuances such as changes in body language or verbal cues that someone is preparing to flee or attack the officer. This could result in officers being slower to respond to aggression.

Lastly, citizens may see other consequences to the BWCs in the form of loss of discretion. At the onset of the study, just over 50% of officers believed BWCs would affect their discretion. However, by the end of the study, over 64% of officers believed their discretion would be impacted. When asked what types of cases their discretion was most likely to be impacted, over 70% of respondents believed their discretion during traffic type enforcement would be impacted. Additionally, 29% stated their discretion to arrest would be impacted. Despite traffic being a generally minor offense, traffic enforcement tends to touch the most members of the community. This may result in heavy-handed enforcement of traffic violations which could hurt community relationships. As one officer put it, he/she will now “feel more

obligated to issue citations instead of cutting a break.” Another officer pointed out that “certain situations are handled best with leniency and breaks. This can go against policy.”

Prosecution

Overall, officers’ beliefs that the BWCs would increase prosecution significantly changed over the course of this study. During the first survey nearly 93% of officers it was at least somewhat likely that BWCs would increase the probability of prosecution or conviction. However, after the second survey was administered, this dropped to 79 percent. The change was more significant when looking at the shifts independently. Second shift, for instance, saw the most significant change, dropping from 84% to just under 65%. Meanwhile, first shift and third shift both dropped to just over 88%.

Second shift also had a very significant change in their view on BWCs effect on the accuracy of reports and on creating better evidence. Their view on increased accuracy of reports dropped by nearly 36 percentage points to just over 43%. Similarly, their view on evidence dropped 38 percentage points to 50%. First shift also experienced a drop in the expectations of the BWCs to produce more accurate reports, but still had over 87% of its officers agree they were at least somewhat likely to improve report writing. Third shift, on the other hand, saw its beliefs regarding the quality of evidence and the accuracy of reports increase to over 94% for each. First shift also saw an increase in the expectation of officers regarding the BWCs and evidence, and, at the completion of the second survey, every first shift officer believed the BWC was likely to produce better evidence.

These changes coincide with the amount of activity observed on each shift. Despite having the cameras at their disposal for review, the accuracy of their reports would only improve if they watched their video. On second shift and likely to some degree on first shift, time does

not allow for the review of every video if any. As a result, while a more accurate account of the incident is available, officers simply are not having time to review them prior to writing their reports. In addition, a significant relationship was found between officer experience and the belief there would be more accurate accounts of incidents, better evidence, and more honest interviews. However, it is not known if second shifts negative views are a result of having fewer experienced officers, if experienced officers on other shifts have found better ways of using the cameras, or if it is an issue unique to second shift.

A second reason may have to do with how officers felt about citizens interviews. Although they are probably creating more accurate accounts of the incident, they are only accurate so long as the person being interviewed is honest. For instance, second shift had over 94% of its officers in agreement that there was little to no likelihood the BWCs would produce more honest interviews. These results are not entirely shocking, as Gaub et al. (2016) found officers had similar views in Spokane and Phoenix. It seems in many instances, at least regarding prosecution, BWCs are not able to live up to the lofty expectation's officers have of them.

Lastly, while most officers (79.1%) agree better evidence is created by the BWC's, there were no changes within the States Attorney's Office to handle an increase in cases. As such, even though more cases may be winnable and easier to prosecute, there simply is not enough time to pursue every offender. As a result, prosecutors may be forced to turn away good cases to free up time and resources to pursue more serious offenses. The results from this study suggest that the overwhelmingly positive outlook regarding the increased prosecution and conviction of offenders diminished over time. This may have an adverse effect on increased police legitimacy as well, due to offenders not being held accountable even with better evidence. As a result,

offenders may be released back into the community and give the impression that the police arrested someone without reasonable grounds to do so.

General BWC Results

While the majority of officers did not view the deployment of BWCs negatively, there was a substantial difference between the shift an officer was on and their feelings towards the deployment. For example, while less than 20% of officers felt negatively on first and third shift, a staggering 65% of second shift officers felt negative towards the deployment of BWCs. Examining the workload may help explain why there was such a discrepancy between the shifts, but it is also important to note the functionality of the BWCs themselves do not seem to be the issue. In fact, an overwhelming number of officers (87.5%) agreed the cameras were at least somewhat easy to use.

Focusing on the workload is more revealing. Compared to the other shifts, the time it takes for officers to handle calls was significantly linked to the shift an officer was working, with every officer from second shift stating BWCs would increase the amount of time. Further, every officer on second shift agreed the BWCs would not reduce their paperwork, and over 80% stated the BWCs would very likely make police work harder. This view was not shared by third shift, with just over 47% of officers feeling the same. Despite this, it is important to note that every shift believed the BWCs would make police work more difficult, especially when compared to their responses on the first survey.

These results are not surprising. It would be expected that the shift with the largest workload, as hypothesized, would feel the greatest impact of the BWCs. Any increased workload would likely result in negative feelings without making other changes to provide relief. One possible solution may be to bolster the number of officers on the busier shifts within a

department prior to deployment. This would allow more free time between calls to do paperwork and review video adequately. As a result, BWCs may feel less overwhelming and may be viewed more positively.

Limitations

Reflexivity/Validity Concerns

As mentioned earlier, this researcher's position within the organization may have impacted my views which may have impacted the results. The fact that those officers who took the surveys were aware a supervisor would be reviewing the results of this survey could have also impacted the results. In an attempt to mitigate this, the first round of surveys was administered by a third party not involved in the research prior to BWC training. However, logistically, it was not possible to do this during the second wave, as each shift had to be met with multiple times before all available respondents had an opportunity to complete the surveys. The surveys were also collected in bulk to provide a sense of anonymity. Despite this, some officers may not have been as honest on the surveys as they may have been otherwise, knowing the results would be read by one of their supervisors. In practice though, officers seemed willing to complete the surveys and share their perceptions. Further, my access within the organization also may have allowed more flexibility to schedule the surveys, which may have resulted in a higher response rate.

Threats to Internal Validity

Many threats to the internal validity of this study occurred over the six-month trial. First, several other systems and technologies were upgraded over this same period. While trying to get comfortable with BWCs, new payroll and timekeeping software was put in place, upgrades were made to the computer-aided dispatch (CAD), and a new email client was put in place.

Difficulties associated with these other changes may have made officers more sensitive to the downsides of BWCs and decreased the overall morale of the department. This could have resulted in more negative responses.

Notwithstanding these changes, the BWC program itself realized policy changes throughout the study. One of those changes, which remains a significant concern of officers today, had to do with the increased reporting requirements associated with the cameras. In the middle of the trial, the reporting requirements were substantially reduced but remained considerably greater than what was experienced prior to being issued BWCs. This seemed to have a profound effect on morale and stress due to the increased workload and additional overtime required to complete required paperwork. Another issue that arose was seasonal, as winter presented new challenges, mainly concerning finding ways to quickly affix the cameras to the outermost layer of clothing as not to obstruct the camera's view.

Next, officers' perceptions may be impacted by their individual desires to see the program succeed or fail. For instance, an officer who wants to see the program fail may have been more critical of cameras and overstated issues with the BWC's. In contrast, those who saw the cameras as a greater benefit may have been apter to overlook some issues with the BWCs.

Lastly, while there was a chance my position impacted this study, I believe that it also provided me with a better understanding of the issues and benefits surrounding BWCs. Considering this, it is important to note I did not take this survey myself. Instead, I was issued a BWC during the first training which was only offered to supervisors. I was exposed to many of the same issues other officers were facing during the pilot program and was frequently made aware of issues during my role as a shift supervisor. This, combined with my experience in law enforcement, provided me an opportunity to provide qualitative aspects to this study. It also

placed me in a position to interpret open-ended questions which may have contained jargon specific to the law enforcement career field and my department.

I do, however, acknowledge, that my position in law enforcement may have created personal biases I was unaware of and affected how I interpreted the results. To further combat my own biases or perspective, another researcher not associated with law enforcement also worked with me in hopes of providing a more academic and neutral perspective. Secondly, I did not input the data directly and instead relied on a third party not associated with this study or this department.

Generalizability

The results of this study, as most with law enforcement, will struggle to be generalizable across agencies. Law enforcement agencies can vary significantly by location, jurisdiction, and state. The laws that govern them can be different even when two agencies are found in the same geographic area. For instance, ordinances may be different in two cities located directly next to or intertwined with one another. These agencies are unable to enforce ordinances in neighboring jurisdictions and may enforce laws or investigate crimes in different ways based on policy, availability of resources, and call load among other things. To further complicate this, departments may not be generalizable to themselves over time. Sheriffs, Chiefs, and Directors may completely change procedures, technologies, and the focus of a department as promotions or appointments occur.

Several other factors can make departments very diverse and may impact the generalizability to include: the availability of technology and access to the latest equipment and investigative tools, agency size, and staffing shortages. Agencies may also differ in their makeup and vary significantly by factors such as race, gender, education, and background. They may also

allocate officers in different ways such as specialized divisions and administrators. Further, outside influences such as the current local political and social environments, crime rates, and critical incidents in or near their agency may impact how an agency and their officers operate. When taking all these things into account, it may become very difficult to compare law enforcement agencies to one another. This may be another reason the neighboring jurisdictions of Phoenix and Tempe had such different results regarding their officers' perceptions of the BWCs (Gaub et al., 2016).

Contamination

The initial surveys prior to the deployment of BWCs in this pilot program were conducted in eight waves over approximately two months. A group of officers would receive initial training and then receive their BWC to begin using it. The surveys were administered at the beginning of this training. Approximately one week later, sometimes less, the next group would receive their BWC and training.

The agency's theory behind this was that officers who were trained initially could provide assistance to the officers who were just receiving their cameras. This would also allow the department time to respond to any issues with the cameras or policies that arose during implementation. As a result of this, officers did not go through the pilot program together. Additionally, officers who were issued cameras were not kept separate from officers who had been issued BWCs. Larger agencies with several jurisdictions or substations may be more capable of keeping the groups separate. However, it was impractical and even impossible to separate officers with BWCs from those who were without during this study.

As a result, officers were able to communicate their opinions of the BWCs to those who had not yet completed the survey or went through the training. Because of this, a certain amount

of contamination likely occurred, with officer's perceptions being directly linked to the perceptions of officers who had already been issued the BWCs. Depending on the overall sentiment of the officers who had the BWCs issued, surveys administered in later waves may be more contaminated than those in the early waves. It is also important to note that even the early waves were susceptible to a certain amount of contamination as a few officers had been involved in the initial BWC pilot with a different manufacturer. There was also a small group of officers who conducted a trial of the AXON cameras before the beginning of the pilot program.

Recommendations for Future Studies

Illinois law requires documentation of whether officers reviewed BWCs prior to completing their reports. Future studies may want to explore how often officers are reviewing their BWC videos prior to completing their reports and if there is any variation amongst the different shifts within an agency. A study over a longer period of time, possibly controlling for overall job satisfaction, may also be advisable, as policy changes over time may improve officers' perceptions, and overall job satisfaction may skew the results. For instance, at the conclusion of this study, software was procured to automatically tag BWC videos with the incident numbers of the corresponding calls officers were on. Over time, this should result in a decreased workload for officers and a more favorable perception. Lastly, it may have also been beneficial to have paired samples so that changes could be attributed to a single officer, allowing changes to a specific officer to be analyzed.

This study was also small in sample size, making it difficult to generalize the results. A larger study consisting of more agencies may make the results more generalizable. However, with the large discrepancies in laws regarding the use of BWC's it may be beneficial to limit the study to one state or states with very similar statutes regarding the BWCs. Also, as seen with

Phoenix who opted for a different manufacturer from the rest of the study, it may be beneficial to focus on agencies who have adopted similar policies and the same camera manufacturer. In studies analyzing officer perceptions, this may reduce threats to internal validity associated with issues specific to an agency or camera manufacturer. Lastly, studies on officers' perceptions would benefit from real-world data on the use of force and citizen complaints, allowing researchers to ascertain if negative perceptions are based on actual events or perceptions manufactured due to the culture within an agency.

Conclusion

The perceptions of officers over the course of the six-month pilot program were found to differ significantly by experience in several areas. The shift an officer was on, and their age was also found to impact officer's responses significantly. Education, however, was not found to be significantly linked with officer responses throughout the study, with the exception of ease of use. Despite this link, most officers found the cameras easy to use. Unfortunately, due to the limited sample size, gender and race could not be evaluated for their impact regarding perceptions towards BWCs.

Contrary to my hypothesis, little change in officers' perceptions overall was found six months after the deployment. However, when broken down by shift some significant changes were found, primarily amongst second shift officers who tended to view BWCs more negatively overall. Meanwhile, first and third shift feelings towards the camera were very similar but differed substantially in their beliefs that BWCs would make police work more difficult. Technological difficulties were minimal during this study, but less experience was associated with fewer equipment difficulties. There was some agreement across the shifts, though, on the ability of the BWCs to reduce or exonerate complaints. In the end, officers found the cameras

easy to use but seemed less convinced that many of the perceived benefits of the BWCs would come to fruition.

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APPENDIX: SURVEY

SURVEY: POLICE OPINIONS ON BODY WORN CAMERAS

****DO NOT PUT YOUR NAME or ID ANYWHERE ON THIS SURVEY****

1. Are you now wearing, or have you ever worn, a body worn camera (BWC) as part of your job duties in the police department?

- a. Yes
- b. No

If YES, continue to Question #2. If NO, skip to Question #10

2. Approximately how long have you been wearing (or did you wear) a BWC?

_____ month(s)

3. How easy are BWC to use?

Extremely Easy Somewhat Easy Somewhat Difficult Extremely Difficult

4. How differently have citizens acted towards you?

Very Different Somewhat Different Slightly Different Not at all

5. In a month, on average, how often have you had technological difficulties using the BWC (i.e. malfunctions)?

Never 1-3 times 4-6 times 7 or more times

6. In a month, on average, how often have you had equipment difficulties using the BWC (i.e. falling off)?

Never 1-3 times 4-6 times 7 or more times

7. How much has BWC affected the amount of time it takes to handle calls (from dispatch to report submission)?

- _____ Reduces the amount of time
- _____ No change in time to handle calls
- _____ Increases the amount of time
- Other: _____

8. a. Overall, how would you rate the most recent BWC you are wearing/have worn?

Extremely Negative Somewhat Negative Somewhat Positive Extremely Positive

8. b. Can you provide some reasoning/explanation for why you rated BWC the way you did?

For the following questions, use the scale provided to indicate how likely or unlikely you believe each of the following might be with the use of BWC:

<i>How likely is it that Body-Worn Cameras will:</i>	<i>Not at all Likely</i>	<i>A little Likely</i>	<i>Somewhat Likely</i>	<i>Very Likely</i>
9. Reduce false claims of police misconduct	[]	[]	[]	[]
10. Reduce time spent on paperwork	[]	[]	[]	[]
11. Make the community safer	[]	[]	[]	[]
12. Reduce violent crimes	[]	[]	[]	[]
13. Make police officers safer	[]	[]	[]	[]
14. Increase the probability of prosecution and/or conviction in court	[]	[]	[]	[]
15. Encourage officer compliance with departmental rules and policies	[]	[]	[]	[]
16. Provide more accurate account of incidents	[]	[]	[]	[]
17. Improve quality of evidence	[]	[]	[]	[]
18. Reduce use of force by police officers	[]	[]	[]	[]
19. Affect or impact the number of arrests officers make	[]	[]	[]	[]
20. Affect police officer privacy	[]	[]	[]	[]
21. Affect citizens' privacy	[]	[]	[]	[]
22. Reduce (informal) citizen complaints	[]	[]	[]	[]
23. Exonerate formal complaints against officers	[]	[]	[]	[]
24. Decrease resistance by citizens.	[]	[]	[]	[]
25. Produce more honest citizen interviews	[]	[]	[]	[]
26. Make you slower or second guess your use of force in response to aggression.	[]	[]	[]	[]
27. Make police work more difficult	[]	[]	[]	[]
28. Draw your focus away from individuals (i.e. suspects/victims/witnesses during interviews)	[]	[]	[]	[]
29. Allow situations to be resolved with lesser amounts of force.	[]	[]	[]	[]

30. How do you feel about the deployment of BWC's to officers?

Extremely Negative Somewhat Negative Indifferent Somewhat Positive Extremely Positive

31. How do you feel when another officer arrives on scene and is wearing a BWC?

Extremely Negative Somewhat Negative Indifferent Somewhat Positive Extremely Positive

32. How concerned are you about your privacy on the job while wearing a BWC?

Very Moderately A little Not at all

33. Please explain why you are/are not concerned about privacy while using a BWC.

34. How concerned are you about citizens' privacy while wearing a BWC? For this question, citizens may include those you interact with on a daily basis, informants, victims, or complainants.

Very Moderately A little Not at all

35. Please explain why you are/are not concerned about citizens' privacy with the use of BWC.

36. For what encounters/situations do you most often use discretion while on-duty?

37. How much do you think wearing a BWC might affect how you use discretion on the job?

Very Much Somewhat Not very much Not at all

38. Please provide an explanation for why you believe wearing a BWC will/will not affect discretion:

39. In what way(s), if any, can body-worn cameras benefit the community?

40. In what way(s), if any, can body-worn cameras benefit police officers?

41. Is there anything else you would like to add?

DEMOGRAPHICS SECTION:

42. What is your gender?

Male Female Other

43. What is your race/ethnicity?

White Black Asian Hispanic Other

44. What is your age in years? _____

45. How many years have you been a police officer? _____

46. What is the highest education level you have completed? _____

47. What shift are you currently assigned? _____

This concludes the survey. Thank you for your participation!