

ON-SET WITH BODY-WORN CAMERAS IN A POLICE ORGANIZATION:
STRUCTURES, PRACTICES, AND TECHNOLOGICAL FRAMES

by

Marthinus Christoffel Koen
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Committee:

_____	Dissertation Director

_____	Department Chairperson
_____	Program Director
_____	Dean, College of Humanities and Social Sciences
Date: _____	Summer Semester 2016 George Mason University Fairfax, VA

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Marthinus Christoffel Koen
Master of Arts
Indiana University of Pennsylvania, 2011
Bachelor of Science
Old Dominion University, 2009

Director: James Willis, Associate Professor
Department of Criminology, Law and Society

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George Mason University
Fairfax, VA

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DEDICATION

This is dedicated to the victims of police misconduct and brutality, in addition to the brave majority of policemen and women of the United States who sacrifice their safety in protecting and serving society.

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I would like to thank the many relatives, friends, and colleagues who have provided support and guidance through this long and difficult process. My Dissertation Chair, Dr. James Willis provided thorough and thoughtful feedback at every stage of the dissertation process and helped me gain access to a research site. He became a mentor who eagerly shared candid, sincere, and practical advice. His guidance was instrumental in my transition from student to scholar. Drs. Bond, Koper, and Lum, who were members of my committee were also of invaluable help. Geordi Campos-Baal, Bruno Gabrielli, and Mark Bauman who proofread various drafts of my proposal and dissertation. My parents, Hilda and Marius Koen taught me to be optimistic and persistent in the challenges I take on, which deemed helpful in completing this process. My sisters, Leani and Karmi also offered support in various ways. My wonderful dog, Lomu served as a healthy distraction from writing. Lastly, my loving and ever-patient life-partner, Kiera supported me throughout the entire process by sharing words of encouragement and wisdom, and most importantly, just being there. Without her support, successful completion of this process would have been far more difficult.

TABLE OF CONTENTS

List of Tables.....	vii
List of Figures	viii
List of Abbreviations and Symbols.....	ix
Abstract	x
Chapter 1: Introduction.....	1
Chapter 2: What We Know about Body-Worn Cameras: Promises and Practices	10
Claims Made by Proponents of Body-Worn Cameras	12
Existing Research on Body-Worn Cameras	17
Organizational Impacts of Police Technology	23
Considering Relevant Social Groups and Technological Frames of Reference.....	27
Chapter 3: Research Questions.....	31
Organizational Structures and Police Practice.....	31
Technological Frame Domains.....	32
Chapter 4: Research Methods.....	34
The Site and Participation.....	35
Semi-Structured Interviews	40
Observations	46
The Survey.....	49
Chapter 5: Origins and Development of Body-Worn Cameras at Sunnyvale Police Department	52
Adoption of Body-Worn Cameras at Sunnyvale	52
Sunnyvale’s Body-Worn Camera Policy.....	58
Chapter 6: Understanding The Impacts of Body-Worn Cameras on Structures and Practices at The Sunnyvale Police Department	61

Reporting	63
Discretion.....	70
Training	79
Police-Citizen Interactions	92
Supervision	102
Conclusion	118
Chapter 7: The Managers vs. Users, The Road to Congruent Technological Frames	130
Nature of Technology	138
Technology Strategy.....	154
Technology in Use.....	170
Conclusion	189
Chapter 8: Discussion and Conclusion.....	194
Limitations.....	205
Future Research	209
Final Thoughts.....	214
Appendix	217
Appendix A: Guided Interviews.....	217
Appendix B: Ride-Along Interview Guide.....	234
Appendix C: Survey	238
References	243
Biography	256

LIST OF TABLES

Table	Page
Table 1 Breakdown of Study Participants	38
Table 2 Patrol Officer Characteristics N=23	39
Table 3 Interview Guides Discussion Topics	43
Table 4 Survey Responses on Quality of Training Received from FTOs (N=23)	57
Table 5: BWC End-User Survey Responses on Reporting Practices. N=23	66
Table 6 Assessment of Changes in Key Structures and Practices	119
Table 7 Patrol Officer Responses on Survey about Training Received. N=23	152

LIST OF FIGURES

Figure	Page
Figure 1 Total Complaints Per Year	113
Figure 2 Total Complaint by Complaint Type.....	115

LIST OF ABBREVIATIONS AND SYMBOLS

US Dollar.....	\$
Body-Worn Cameras.....	BWCs
In-Vehicle Cameras.....	IVCs
Application.....	APP
Technological Frames of Reference.....	TFR
Relevant Social Group.....	RSG

ABSTRACT

ON-SET WITH BODY-WORN CAMERAS IN A POLICE ORGANIZATION: STRUCTURES, PRACTICES, AND TECHNOLOGICAL FRAMES

Marthinus Christoffel Koen, Ph.D

George Mason University, 2016

Dissertation Director: Dr. James J. Willis

Existing research on body-worn cameras (BWCs) has primarily focused on outcomes (e.g., use-of-force incidents, complaints, and arrests) rather than the processes related to BWC implementation and use by officers. This dissertation provides insights into the effects that the implementation of BWCs has had on key organizational structures and practices, including *reporting*, *discretion*, *training*, *police-citizen interactions*, and *supervision*. It also focuses on the *technological frames* of individuals belonging to different organizational groups and examines to what extent these outlooks differed between groups and changed over time. Using in-depth interviews, ride-along observations, and patrol officer surveys at a single police agency, this research resulted in two major, interrelated findings. First, the largest effect of the implementation of BWCs was on accountability, which had increased in *scope* to cover a range of aspects of policing, including training, reporting, discretion, and police-citizen interactions. At the

same time, the intensity with which officers' experienced accountability had not significantly increased as BWC footage was not systematically used to monitor, review, and/or evaluate police officer conduct and quality of performance. The second major finding, regarding the technological frames of two relevant social groups (Managers and Users), helps explain these findings. BWCs were implemented primarily for training purposes and to protect patrol officers against groundless complaints rather than as a mechanism for identifying officer misconduct, for failing to comply with departmental policies, and for poor street-level performance. Although Users initially feared that BWCs were going to be used to get them into trouble for minor instances of misconduct or rule violations, their frames changed over time as they realized that BWCs were not going to be used by Managers as a "gotcha" mechanism. As officers learned that BWCs were used primarily to protect and support them, they became much more positive and less apprehensive about their implementation in the department. This challenges the view suggested by the technological frames literature that "first impressions" last, as Users' initial apprehension toward BWCs gave way to a readiness to embrace them, particularly in light of the several benefits they subsequently learned BWCs delivered. This contribution to existing knowledge is beneficial in two ways: first, it fills a gap in existing police technology research in providing an in-depth examination of the effects of BWC implementation on a variety of structures and practices in addition to technological frames; second, it serves as a baseline for future, large-scale studies by identifying additional factors that were important and/or specific to the implementation of BWCs that have not been fully explored.

CHAPTER 1: INTRODUCTION

Technology and innovations are instrumental for police organizations to achieve their goals, whether it is to fight or prevent crime, or to make day-to-day processes and practices more efficient. However, at the same time, new technology can also affect police practice in ways that are unintended or unanticipated (Manning, 1992; 1996). Additionally, technological change is rarely straightforward and deterministic, but is ongoing and emergent (Manning, 1992; Orlikowski, 1996; Chan, 2007). Therefore, it is important to research new police technologies beyond their impacts on outcomes regarding effectiveness and efficiency to understand fully how they might change existing organizational structures and practices. This is particularly the case for technologies, such as body-worn cameras (BWCs), which are diffusing rapidly, in a “low information environment” where much is still unknown about their intentional and unintentional effects (Lum et al. 2015, p. 3).

Technology plays an important role in policing, which was true in the past with the adoption of automobiles and two-way radios, and now, as police organizations continue to adopt technology to meet their needs (Scarborough and Cordner, 2005). Some recent technologies include license-plate recognition technology (LPR), gunshot recognition, body armor, CCTV systems, fingerprint identification records management

systems, mobile data centers, computer aided dispatch systems, and automated field reporting systems (Byrne and Marx, 2011). Although these technologies are meant to help police organizations achieve their goals, when new technologies are adopted, police organizations experience effects that go beyond the impacts of that technology on effectiveness (Manning, 1992; Chan, 2001; Chan, 2007; Koper, Lum, and Willis, 2014; Koper, Lum, Willis, Woods, Hibdon, 2015). In some cases, new technology can even be the cause of adverse effects or unintended consequences (Manning, 1992; 1996). Thus, it is important to be aware of the comprehensive effects when adopting new technology, an observation that provides the general premise for this study on a new police technology that is becoming increasingly popular: body-worn cameras (Johnson, 2014; Pearce, 2014; Sink, 2014).

When unarmed teenager, Michael Brown was shot and killed by a member of the Ferguson Police Department, it caused public outrage that eventually led to rioting and violence (Mai-Duc, 2014). This story gained significant media attention and the issues of police accountability, transparency, legitimacy, use of discretion, and strength of evidence came to light. Witness accounts of the shooting incident differed concerning what happened before and after the shooting. Subsequent events that included Freddie Gray and Tamir Rice contributed to additional public outcry to bring more transparency to police-citizen encounters. Naturally, BWCs became a topic of discussion since they would have been able to provide some clarity as to exactly what happened before and after the point when those unarmed citizens died at the hands of the police. Eventually the Ferguson Police Department, in attempts to improve relations with the public,

implemented them to help ensure accountability and transparency and to address future conflicts in witness accounts (Pearce, 2014). However, the Ferguson Police Department is not the only police agency implementing BWCs: many police agencies have implemented or are considering implementing BWCs (Goodall, 2007; Hayes and Ericson, 2012; Johnson, 2014; Pearce, 2014; White, 2014; Lum, Koper, Merola, Scherer, Reiou, 2015). This is especially true for large metropolitan areas like Washington D.C., Los Angeles, Chicago, and New York City (Chang, 2014; Johnson, 2014; Pearce, 2014).

BWCs are popular because they offer many purported benefits to policing and to the public (Hayes and Ericson, 2012). One benefit that seems to be popular among police organizations is that they help provide better evidence in cases where there are complaints against police, or in criminal investigations (IACP, 2004; Goodall, 2007; Farrar, 2013; MPD, 2013; White, 2014; Ariel, Farrar, and Sutherland, 2015; Jennings, Lynch, Fridell, 2015; Lum et al., 2015). Another purported benefit of implementing BWCs is that they can improve police officer safety since disgruntled citizens tend to become much less aggressive once they find that they are being videotaped (IACP, 2004; Goodall, 2007; Farrar, 2013). Lastly, video footage can be used in real-time, or afterward, as a means for training and performance reviews. Instead of having to conduct a performance review from memory, a supervisor can now consult several samples of an officer's work that can also be used as a training tool (Hayes and Ericson, 2012, White, 2014). BWCs are thus becoming increasingly popular due to the way that they can potentially streamline several aspects of policing but also serve as a mechanism that improves accountability, transparency, and legitimacy to the public.

However, just because BWCs are becoming increasingly popular among police organizations and the public, it does not mean that they will work in the ways that they are intended or that they will not produce unanticipated and potentially undesirable effects. Thus, there is a need for more in-depth research on how BWCs are implemented in police organizations, what police officers think of them (presumably perceptions of BWCs affect how they are used), and to what extent they are changing how police organizations operate and how police work is done. Currently, there is a lack of research that focuses on the implementation of BWCs as research has tended to focus on BWC outcomes (e.g. reduced complaints, increased citation activity, and less use-of-force cases). With this dissertation, I attempt to provide some insights into how the implementation of BWCs impacted a police organization. I consider two factors: BWC impacts on key structures and practices, in addition to individual interpretations and interactions (i.e. technological frames) with BWCs. I thus answer the following two questions: *“How has the implementation of body-worn cameras changed existing organizational structures and practices?”* and *“What are police professionals’ perceptions of the use of body-worn cameras and to what extent are their similarities or differences in these perceptions across groups within the organization?”*

Proponents of BWCs tend to think that they will inspire a lot of change, especially regarding accountability and transparency (Harris, 2010; Draisin, 2011; Hayes and Ericson, 2012), but existing research has not been able to provide a detailed explanation of to what degree change does occur or what specific form it takes. Additionally, outcomes focused research, for the most part, has not been able to provide in-depth

explanations of the unintended or adverse consequences of this technology that have been identified (e.g. increased arrests and citation activity). By examining key structures and practices like reporting, training, discretion, citizen interactions, and supervision following the implementation of BWCs in a single police agency, allows me to examine how BWCs have impacted police work and police organization.

I found that at the Sunnyvale Police Department (a pseudonym), BWCs had impacted some organizational aspects more than others. The biggest change was to accountability. However, it did not seem as though accountability had changed in a way that proponents would have imagined. BWCs offer an opportunity for supervisors or other authorities to review BWC footage and hold officers strictly accountable for their conduct and/or performance. Where supervisors previously had to rely on third-party testimony, the word of their corporals, or what they saw in the field when they joined their subordinates on calls, BWCs in a sense gave them “more eyes” with which to monitor their officers’ behavior. In other words, BWCs offered an opportunity to increase the *intensity* by which officers were held accountable for their actions. However, that was not how accountability changed at Sunnyvale.

Officers generally felt more accountable for their work, and this sense of accountability cut across different aspects of reporting, discretion, training, and police-citizen interactions. The presence of BWCs had the potential to make many aspects of their work more visible to people within and outside of the department. In other words, BWCs shed light on aspects of police work that had traditionally been less visible to others and therefore provided an opportunity for someone to get a closer look at what

they were doing on a day-to-day basis. Thus, due to their ability to make officers' behavior more visible to others, BWCs increased the *scope* of accountability. As BWCs were not used as a supervisory tool to systematically monitor and evaluate officer conduct and quality of performance on the street (which would have increased the intensity of accountability), officers did not feel markedly more pressure for the quality of their performance. Rather than using BWCs to continuously monitor what patrol officers were doing and how they did it, the department put much greater focus on using BWC footage in response to citizen complaints. Whereas the use of BWC footage to examine misconduct complaints was easily integrated into existing structures and practices, the full implementation of BWCs to monitor and evaluate patrol officers' decisions and compliance with department policies would have been much more disruptive to organizational routines and relationships.

In addition to exploring the nature of organizational change due to the implementation of BWCs, I was also interested in how police at all ranks made sense of them. This approach centered on Orlikowski and Gash's (1994) contribution to the study of technology known as *technological frames of reference (TFR)*, helped explain my findings on organizational structures and practices. This perspective looks at how different groups within an organization interpret technology and how those interpretations may change with over time as they become more familiar with a new technology. Orlikowski and Gash (1994) suggest that individuals share similar technological frames based on their position within the organization (hierarchy) or due to the nature of their interactions with that technology (function; Orlikowski and Gash,

1994). Different groups of individuals with similar frames (i.e. relevant social groups) can have frames that are congruent or incongruent with other relevant social groups (Orlikowski and Gash, 1994). Incongruent frames between groups (such as designers or analysts) can lead to non-compliance, misuse, and abandonment of a technology altogether (Orlikowski and Gash, 1994; Davidson, 2002; Davidson, 2006; Olesen et al., 2013). Understanding the technological frames of the different relevant social groups (in my case, Managers¹ vs. Users²) at the Sunnyvale Police Department and how these frames changed or stayed the same over time, provided valuable insights into the implementation of BWCs that both scholars and practitioners might find valuable.

My findings on technological frames supported and helped explain my findings regarding organizational structures and practices by revealing that the intentions of the Managers were not to implement BWCs as a “gotcha” mechanism, but as a means to benefit the department by helping train officers and by protecting them from frivolous or baseless complaints. Users initially explained that they were anxious about the implementation of BWCs since they were uncertain whether they were going to be difficult to use, what the intentions of Managers were, and whether they would be used to constantly monitor their behavior and catch them out for minor policy infractions. While Users learned quickly that BWCs were fairly straightforward and easy-to-use, it took them longer to learn that BWCs were not intended to catch them making mistakes and would not be used to bring charges against them for minor policy infractions. With time,

¹ This group consisted of supervisors, the command staff, and the chief.

² This group comprised patrol officers, training administrators, and detectives.

they came to see BWCs in a positive light offering them unanticipated benefits to their daily work.

This research tells a story about the implementation of BWCs that can be useful to both scholars and practitioners. Showing that although BWCs were not implemented in the way that BWC proponents would necessarily have anticipated, that the department was able to garner positive perceptions of BWCs by officers across the department. Garnering acceptance among officers might be the first step in a gradual process of steering the use of BWCs in a way that is more aligned with innovation and/or what proponents would have imagined.

The following section will consider existing literature on BWCs and police technology. I first discuss in detail the claims that have been made by proponents of BWCs before I discuss existing research that has been conducted on them. I transition to the existing literature on how other police technologies have impacted organizational structures and practices. Lastly, I explain the theory and research behind technological frames of reference. This review of literature should prepare the reader to understand the context of my research questions which I present in the following chapter.

The research methods chapter provides a detailed explanation of the research site and covers the data collection and analysis methods I used to gain insights about BWCs at the police department. Sunnyvale Police Department is a small, city-level police department in the mid-Atlantic United States, that had implemented BWCs roughly 3.5 years at the time of data collection. I used both qualitative and quantitative methods that

consist of semi-structured interviews, observations, and a survey. My data consist of 68 interviews, 20 observations, and 23 patrol officer survey responses.

Before I present my findings, I explain, in detail, the evaluation and implementation of BWCs at Sunnyvale PD. In the last chapter, I offer a quick summary of my findings and connect the two findings chapters to one another and explain that understanding technological frames at Sunnyvale provide a context in understanding how structures and practices were impacted by BWCs. I discuss the limitations of my research methods and explain the steps I took to mitigate them, I make recommendations for future research before concluding my dissertation with my final thoughts on BWCs and technological change.

CHAPTER 2: WHAT WE KNOW ABOUT BODY-WORN CAMERAS: PROMISES AND PRACTICES

Koper, Tayler, and Kubu (2009) found that roughly 26% of police agencies affiliated with PERF that participated in their national survey already used body-worn cameras. Of those agencies, a vast majority (roughly 96%) found BWCs to be effective (Koper et al., 2009). However, this data was gathered several years ago and these numbers have most likely since changed since the body of evidence on BWCs is in a state of growth (Lum et al., 2015). Although the body of evidence *is* growing, there is very little existing literature on BWCs, and as of yet, there are no in-depth process evaluations of how police organizations have implemented them, how different groups within an organization interact with BWCs, nor how they have impacted police structures and practices.

Proponents and manufacturers of BWCs suggest that BWCs can improve on certain day-to-day aspects of police practice (Harris, 2010; Draisin, 2011; Hayes and Ericson, 2012; White, 2014). Some of the advertised benefits of BWCs are that they can improve police accountability, transparency, evidence collection practices, officer safety, and training practices (Harris, 2010; Draisin, 2011; Hayes and Ericson, 2012; White, 2014). In terms of research, only a handful of studies on BWCs have been conducted in the United States and internationally. In addition, the body of evidence on this technology

is still very small and to date, the dominant focus has been on outcomes and police attitudes (White, 2014; Lum et al., 2015).

Research focused on police attitudes have shown that police generally have positive views about BWCs, while outcomes-based research suggests that BWCs appear to reduce police use-of-force, reduce citizen complaints, improve perceptions of officer safety, and strengthen evidence for internal and criminal investigations (Goodall, 2007; ODS, 2011; MPD, 2013; Farrar, 2013; White, 2013; Ellis, Jenkins, and Smith, 2015; Jennings, Fridell, Lych, 2014; Owens, Mann, and Mckenna; 2014; Roy, 2014; White, 2014; Ariel et al., 2015; Grossmith, Owens, Finn, Mann, Davies, and Baika, 2015; Jennings et al., 2015; Katz., Kurtenbach, Choate, and White, 2015; Lum et al., 2015; Ready and Young, 2015; Young and Ready, 2015). Despite the methodological shortcomings of some of these studies, many of the outcomes-focused projects were random controlled trials and do provide an initial understanding of BWC outcomes. Although some studies do focus on the administrative and logistical implications that are coupled with the implementation of BWCs, they do not provide in-depth insights about the actual implementation of BWCs, nor do they consider how perceptions of BWCs may differ between groups within the organization and how these might change over time (which was the focus of this study).

The literature on BWCs can be broken into two categories: *claims made by proponents of body-worn cameras* and *studied outcomes of body-worn cameras*. There are several news articles, papers (see Harris, 2010; Draisin, 2011; Hayes and Ericson, 2012) and publications released by proponents and manufacturers of BWCs that tout

certain benefits of implementing BWCs. These include improved police accountability (Harris, 2010), improved police legitimacy, transparency (Howland, 2010; Hayes and Ericson, 2012), perceptions of officer safety (Draisin, 2011), community relations (Hayes and Ericson, 2012; White, 2014), evidence collection practices (Harris, 2010), less citizen complaints (Hayes and Ericson, 2012), improved citizen behavior (White, 2014), and improved training practices (Harris, 2010; Hayes and Ericson, 2012).

Research on BWCs have found that BWCs have been associated with a reduction in citizen complaints (Farrar, 2013; Farrar and Ariel 2013; Ariel et al. 2015; Katz et al., 2014), reductions in use-of-force incidents (Katz et al., 2014; Owens et al., 2014; Ariel et al. 2015), stronger evidence that helps reduce time spent in court (Goodall, 2007), BWCs have a civilizing effect on citizens (Goodall, 2007; Farrar, 2013), and an increase in arrest and citation activity (Ready and Young, 2015). This review of BWC literature will first consider some of the claims made by proponents of BWCs then attention will shift to some of the existing research on BWC outcomes.

Claims Made by Proponents of Body-Worn Cameras

Body-worn camera vendors argue that their products are a great investment for any police organization since they can save city governments millions in police misconduct investigations, provide better training opportunities, reduce civilian complaints, improve legitimacy, improve officer safety, reduce time spent in court, improve accountability, and help departments avoid lawsuits (Howland, 2010; Hayes and Ericson, 2012) and they mostly support their claims with parallel research that focused on in-vehicle cameras systems (IVCs; see Hayes and Ericson, 2012). The International

Association of Police Chiefs (2004) is often cited by proponents of BWCs. The IACP (2004) study used police officer interviews, internal investigations, and attitude measures in addition to citizen complaints and use-of-force incidents to measure the impacts of IVCs on police accountability, legitimacy, training practices, perceptions of officer safety, and strength of evidence. In this section, I will cover the IACP (2004) study in some detail since it had served as the basis of BWC proponents' arguments as a significant source of change.

Although most police organizations did not originally implement IVCs with the purpose of improving police professionalism by holding officers accountable for their actions, it had become a secondary purpose (IACP, 2004). The original reason for implementing them was to increase the strength of evidence for roadside incidents (IACP, 2004; Draisin, 2011). The IACP (2004) study found, however, that IVCs did have a strong effect on police accountability in addition to public perceptions of police. In terms of civilian complaints, the study found an 8% reduction in sustainable complaints against officers (IACP, 2004). Although at first it seemed like IVCs did not have much effect on police accountability, initial survey results indicated that about 20% of police officers changed their behavior when they knew that they were being filmed (IACP, 2004). Additional interviews that were conducted with police officers revealed that first, officers were reluctant to indicate whether the cameras had actually had an effect on their behavior, and second, that police officers did try harder to be more courteous and professional when they knew they are being filmed after some time (IACP, 2004).

Proponents of BWCs also claim that BWCs can help police officers improve their craft or the quality of their police work and can serve as a training tool for the department to teach new officers how to perform on the street (Hayes and Ericson, 2012). BWCs can also be used as a source of information when supervisors have to conduct performance reviews (Hayes and Ericson, 2012). It seems as if IVC footage has at times been used as a training tool in that the IACP (2004) study found that police agencies did sometimes use IVC footage for this purpose. Supervisors used the footage as a means to provide constructive criticism and some police officers admitted that they reviewed some footage as a means to improve on their craft (IACP, 2004). Moreover, some police organizations reported having training sessions where they reviewed footage from the field to help newer police officers (IACP, 2004).

Another aspect of policing that proponents of BWCs believe this technology can improve is the strength and validity of evidence that is collected during citizen encounters. Even though in most cases police officers probably do not intend to bend the truth in their favor, there are cases where the truth is not captured in its entirety during citizen encounters (Harris, 2010). In some cases, police officers cannot really capture an event in its entirety in a written police report, whether it is due to memory lapse or due to the amount of detail involved in an incident (Mitchell, 2010; Harris, 2010). BWC video evidence, according to proponents, can help police officers jog their memory when they do officially create their reports and can serve as a tool to test the truthfulness of police reports that come in question (Mitchell, 2010; Harris, 2010). Police officers tend to like

this aspect of video evidence since it provides a depiction closer to what actually happened rather than relying on the testimony of witnesses and memory (Mitchell, 2010).

Video evidence from IVCs have helped police officers in two ways: resolving citizen complaints and expediting criminal cases. Officers that have used video evidence as a means of evidence collection have enjoyed the benefit of being able to quickly resolve citizen complaints against them (IACP, 2004; Harris, 2010; Draisin, 2011). In some cases, video evidence has helped officers prove their innocence when they have been accused of wrongdoing by citizens (IACP, 2004). Often citizens have dropped their complaints against police officers once they found out that recordings of the event existed (IACP, 2004). Police organizations that used video evidence in internal investigations saw a stark decrease in citizen complaints, especially once citizens were told that there was footage of the incident (IACP, 2004).

Furthermore, police and prosecutors alike enjoyed IVC footage in that it helped expedite cases (IACP, 2004). Although IVCs presented some burdens for prosecutors when video evidence was used in trials, 91% percent of prosecutors reported that they used video evidence to their advantage in criminal trials (IACP, 2004). In addition, police and prosecutors claimed that IVC footage often helped with speeding up the process of getting convictions and often led to plea deals prior to going to trial (IACP, 2004). It is hard to argue against what is shown in video evidence sometimes, especially when an event was captured in its entirety.

Proponents of body-worn cameras claim they may also affect officer safety during citizen encounters. One of the reasons why the adoption of in-vehicle cameras grew

popular was to deter disgruntled citizens from taking their frustrations out on police officers during traffic stops (IACP, 2004) and currently some police organizations are considering adopting body-worn cameras as a means to improve police officer safety (Draisin, 2011). It seems as if police officer safety was impacted in two ways by IVC footage. First, citizens were more likely to correct their behavior when they found out that they were being recorded by IVCs (IACP, 2004; Draisin, 2011). Second, police officers felt safer when they were aware that footage was being recorded during traffic stops (IACP, 2004).

When the IACP (2004) surveyed citizens through public forums, they found that there was significant support for the use of IVCs in that video evidence also had a deterrent effect on them. When members of the public found out that they were being videotaped, they reported they corrected their behavior and became more cooperative (IACP, 2004). Furthermore, some officers, especially those with more experience, tended to use dashboard cameras as a means to de-escalate intense situations (IACP, 2004). Telling people that an event was being recorded tended to have an inhibiting effect on aggressive behavior and thus increased police officer on-the-job safety. The IACP (2004) study also found that 33% of police officers felt safer when they knew that they were being recorded and even though 33% was only one-third of police respondents, IACP (2004) still found it to be a significant increase in perceptions of safety.

These are rather strong claims about BWCs that are based on very limited research consisting of speculation drawn from parallel research on IVC. BWCs are similar to IVCs as they are both surveillance technologies that allow for real-time audio

and recording of police encounters with citizens, and therefore, it makes sense why proponents of BWCs would base their claims on IVC research. At the same time, BWCs are much more mobile as they are attached to the actual officer and so they are much better equipped to capture the details of a wider variety of encounters from an officer's point of view. It is, therefore, important to see how existing research on BWCs stack up to the claims of BWC proponents and stakeholders.

Existing Research on Body-Worn Cameras

In his 2014 review of research on BWCs, Michael White identified five studies on body-worn cameras: the Goodall (2007) Plymouth Head UK study that focused on BWCs as a source of evidence; ODS Consulting (2011) Aberdeen and Renfrewshire, UK studies that were centered around citizen attitudes; the Farrar (2013) Rialto CA study that focused on citizen complaints, and use of force; the MPD (2013) Mesa AZ study that focused on reducing citizen complaints, strength of evidence, and officer perceptions; and lastly, the White (2013) Phoenix AZ study that examined officer behavior, citizen complaints, citizen resistance, and response to domestic violence. White (2014) noted methodological limitations of these studies claiming that they were not all conducted by independent parties, that many of them relied on self-report data, and that several of these studies did not include a comparative design element. Since White's (2014) report, Lum, Koper and colleagues from George Mason University found an additional 7 studies and 30 ongoing projects regarding BWCs, with some using rigorous research methods like random controlled trials, showing that despite BWCs receiving increased attention from scholars that there are still few empirical studies on the use of BWCs in the field.

The existing BWC literature has shown us some impacts on outcomes. These include reductions in citizen complaints, reductions in time spent investigating complaints, reductions in use-of-force (although results are mixed), increased arrest and citation activity, improvements in the quality of evidence, and BWCs can have a civilizing effect on citizens (making officers feel safer on the job as a result). This section will discuss some of the research on the impacts that BWCs have had on these outcomes in further detail and will then make a case for why inquiry that goes beyond outcomes is important.

Several studies have found that BWCs have had an impact on both the amount of civilian complaints that were filed against officers and the speed with which they were resolved (ODS Consulting, 2011; Farrar, 2013; MPD, 2013; Katz et al., 2014). One study that used an experimental design to test how BWCs affected civilian complaints was conducted in Rialto, California (Farrar, 2013). BWCs were handed out to half of the patrol officers and the study continued for one year and 5 months to see if BWCs had an effect on police behavior.

One of the more striking findings that became apparent quickly after the beginning of the study was that the police organization experienced an 88% decrease in civilian complaints against officers (Farrar, 2013). This was attributed to two factors: it seemed as if people who knew that they were being filmed, were more likely to correct their behavior and thus be less likely to become uncooperative. Secondly, it seemed as if police officers focused a lot more on being professional and courteous during their encounters with citizens while wearing BWCs (Farrar, 2013). Similarly, several

additional studies, with the exception of one conducted by the Edmonton Police Service (2015), also saw a reduction in civilian complaints related to the use of BWCs (Goodall, 2007; MPD 2013; Katz et al., 2014).

In terms of how BWCs impacted the complaint investigation process, research had found that BWCs helped reduce the time it took to resolve citizen complaints against police officers and police departments (ODS Consulting, 2011; Farrar, 2013; Katz et al., 2014; Ariel et al., 2015). Additionally, research focusing on the impacts of BWCs on citizen complaints found that many citizen complaints were either not sustained or withdrawn once BWC footage was referenced (Goodall, 2007; ODS Consulting, 2011; Farrar, 2013). Lum et al. (2015, p. 11) caution against how these findings of citizen complaints should be interpreted since it is unclear whether these reductions in citizen complaints were due to improved public perceptions, improved police behavior, improved citizen behavior, or improved police accountability.

Although the research on BWC impacts on officer use-of-force is mixed and rather limited to a handful of projects, the Rialto study also found that police officers were far less likely to use force if they were wearing BWCs. Officers without BWCs (the control group) tended to be twice as likely to use force compared to the BWC group (Farrar, 2013). Overall, police officers were 60% less likely to use force after the implementation of BWCs (Farrar, 2013). Farrar (2013) pointed out that some of the strongest differences occurred during situations that were less severe. In situations where the officers were less certain of using force, because the behavior of suspects was provoking but not severe, officers were more likely to avoid using force. This was even

true when officers could have justifiably used force according to organizational policies (Ariel et al. 2015).

Similarly, another study found that officers who wore BWCs had been found to be less likely to perform stop-and-frisks (Ready and Young, 2015). Ariel et al. (2015) explained that knowing they were being filmed seemed to push officers to a point where they tried to avoid using force in unclear situations. For the most part, it seemed as if police officers were likely to use force only when they were physically provoked or when a suspect was clearly resisting arrest (Ariel et al. 2015). One thing to note, however about the Rialto study, was that officers in the BWC group were more likely to use more serious forms of force when they felt compelled to do so (Ariel et al. 2015).

At the same time, the Edmonton Police Service (2015) found that that BWCs did not impact how officers used force. Ariel et al. (2016) also found that BWCs had no impact on officer use-of-force with a project consisting of random controlled trials conducted at 10 individual sites. In addition, other studies indicated that BWC-wearing officers tended to be more likely to make arrests and write citations than those who did not wear them (Katz et al., 2015; Owens et al., 2014; Ready and Young, 2015). Lum et al., (2015) explains that low-incident rates associated with officer use-of-force might explain the lack of clarity and mixed support on this outcome. As findings from ongoing and future studies continue to trickle in, BWCs' effects on use-of-force might become clearer.

In terms of strength of evidence, some research has indicated that BWC footage can be used as a strong source of evidence (Goodall, 2007; ODS Consulting, 2011; MPD,

2013). Goodall (2007) found that BWCs were used to show more accurately with visual data whether a violent crime had occurred during a criminal incident. Furthermore, Goodall (2007) also found that when incidents were recorded, they were more likely to result in guilty pleas once they went to court. This increase in case turn-around led to freeing up some police officers' time by roughly 22% that they would usually spend doing paperwork. ODS Consulting (2011) found that charges were 70-80% less likely challenged in court when BWC footage was used as evidence compared to when it was absent. In the United States, however, there is almost no research on the effects of BWC footage on evidence strength aside from the MPD (2013) study that asked police officers whether they perceived BWC footage as a source of stronger evidence in cases involving general charges and in domestic violence cases. Eighty percent of officers who participated in this study indicated that they thought that BWC footage would be a source of stronger evidence in general cases and 76% perceived BWC footage as a strong source of evidence during domestic violence cases.

Lastly, BWCs had also been found to impact citizen behavior during police-citizen interactions. Goodall (2007) found that BWCs had a "civilizing effect" on citizens during encounters. The study found that once police officers made civilians aware that they were equipped with BWCs, citizens would notably adjust their behavior and generally became more compliant. Furthermore, ODS Consulting (2011) found that civilians did not just improve their behavior when they found out that an officer was wearing a BWC, but that assaults on officers also drastically decreased when officers were wearing BWCs. In the United States, the evidence is still somewhat scarce

regarding improved civilian behavior (concerning BWCs), but MPD (2013) and Farrar, 2013 did find support for the notion that BWCs can improve citizen behavior. However, in their recent publication, Ariel et al. (2016) showed that BWCs in some instances increased the chances of officers being assaulted by citizens, which stands in contrast with previous works and highlights a need for additional research on this outcome.

Comparing what we know about the advertised and studied benefits of BWCs, it seems as if researchers are beginning to address many of the advertised outcomes of BWCs. This research, however, is still in its infancy and much still remains to be learned (Lum et al. 2015). While research on outcomes is undoubtedly valuable, it is also important to know how BWCs are currently being implemented in police organizations. For instance, the existing research on this focuses much on whether BWCs can be tools for increasing accountability and professional behavior among police officers during citizen encounters, but these studies have not considered the processes that ensure video evidence serves as a means of upholding professionalism. In other words, how do police officers react to knowing that their behavior might be assessed by a superior? What policies are in place (and to what extent are they followed?) that allow video evidence or BWCs to serve as a tool for increasing or maintaining professional behavior among police officers? Police officers may start becoming more aware of their behavior when BWCs are implemented, but if there are no protocols in place for reviewing the footage, police officers could potentially regress. In addition, outcomes on use-of-force and civilian complaints do not with certainty indicate that police are in fact being held accountable at a higher level.

The main takeaway point from considering the existing knowledge on BWCs is that the research has mainly focused on outcomes, but have neglected some of the processes and impacts that BWCs have had on police organizations. Although outcomes research can also sometimes be helpful in discovering important and relevant factors and processes surrounding the implementation of a technology, existing research on BWCs do not provide an objective and in-depth analysis of how this technology was implemented, how they impacted police organizational structures and practices, nor do they tell us much about the expectations and concerns of police leaders or their subordinates (technological frames). Knowing how BWCs impact these processes can provide valuable information on how police organizations adopt and adapt to BWCs (thus opening new lines of inquiry for additional research) and identifying unanticipated opportunities and challenges that departments may face implementing BWCs.

Organizational Impacts of Police Technology

One of the purposes of this study is to understand how body-worn cameras have impacted or changed certain key police structures and practices. Giddens (1984) explained that the continued repetition of behavior by individuals within an organization produced and maintained social structures. Social structures within an organization (i.e. organizational structures) can consist of values, traditions, and established ways of doing day-to-day tasks (Giddens, 1984). Mastrofski and Ritti (2000) define organizational structures within the context of policing:

“Organizational structure refers to those things that control and coordinate the organization’s work, what Thompson (1967) calls the ‘internal differentiation

and patterning of relationships' among an organization's components. We are concerned with the organization's formal structure, the structure of positions, policies, programs, and procedures that are promulgated by those granted authority to control and coordinate (Meyer and Rowan 1977: 343). This is a broader use of the term than that applied by many police – simply the structure of positions as might be revealed in the relation of positions in an organization chart. It refers to the rights and responsibilities of those positions as well as the rules, regulations, and routines designed to configure tasks performed by members of the organizations.” (p. 188-189)

With that in mind, the term “organizational structures and practices” will refer to organizational features involving the day-to-day behavior of individual whether they are controlled by formal policies, procedures, or protocols, or influenced by informal social systems. Knowing how, if at all, BWCs change police organizational life can tell us much about how BWCs are shaping, or can shape police departments as they diffuse across the nation. The government and public have demanded that more police organizations implement BWCs (Chang, 2014; Johnson, 2014; Pearce, 2014; Jennings et al., 2015). However, without understanding how they might impact police organizational structures and practices, this technology might not be as effective as the public, stakeholders, and proponents of them would like. It is, therefore, imperative to this study and the successful diffusion of BWCs that we understand how technology impacts police organizational behavior.

Chan (2001) explained that within the extant literature on police technology some have been more sanguine about the potential for meaningful change while others seem more skeptical. The latter suggests that traditional police practices and organizational structure often make it more difficult for police technology to be used as intended (Chaiken, Crabill, Holiday, Jaquett, Lawless, and Quade, 1975; Colton, 1978; Hough, 1980; Manning, 1992; Manning, 1996; Chan, 2001; Willis, Mastrofski, Weisburd, 2004; Koper et al, 2014). This view suggests that technology cannot be used in the way that it was supposed to because the organizational structure and behaviors of certain police organizations are not suitable to the technology. For instance, technology can make the work of police officers more complex and limits their discretion. This can cause police officers to be more resistant to the changes that accompany the adoption of new technology. In some cases, where police officers feel that their discretion is being limited, they can become less satisfied with their jobs and ultimately become less effective (Zhao, Thurman and He, 1999).

In contrast, others are more positive about the ability of technology to make meaningful change concerning effectively preventing and combatting crime (Harper, 1991; Reichert, 2001). Furthermore, some research suggests that new police technology has also helped make police officers more accountable and police operation more transparent (IACP, 2004; Koper et al., 2014). However, just because some police organizations can successfully implement new technologies does not mean that police agencies are becoming more effective regarding reaching their goals (Henman, 1996; Koper et al, 2014). A body-worn camera might be very efficient at capturing visual data,

and it might also be much more useful in situations where in-vehicle cameras are not. But, if a police officer does not turn the camera system on at the appropriate times, or if the police officer does not point the camera in the right direction to capture pertinent visual evidence, then it is of no more use than a regular in-vehicle camera. Just because a piece of technology works better (or is more efficient), does not mean it makes the police necessarily more effective at reaching their given goals.

It is difficult to reach a general conclusion about all police technologies. We cannot just say that all technology will help police efficiency, nor can we say that all technology will be counterproductive. Different technologies have been implemented and studied in different police organizational environments that provided different results. What we can take away from extant literature on police technology is that how technology impacts police structure and practices depend very much on the type of technology and the organization of which the technology is a part. In other words, it seems as if there are many organizational, technological, and external factors that can affect the impact of technology on a police organization. It is, therefore, important to understand the impacts of each technology in different police environments. Furthermore, this also means that large-scale national studies may not provide data that is rich enough compared to smaller, case studies (Willis, Mastrofski, Weisburd, and Greenspan, 2004).

What we know about police technology is somewhat limited (Koper et al, 2014). Much research on police technology seems to focus on outcomes and seem to mostly ignore or neglect the impacts that technologies have on other dimensions of police organizational behavior and perceptions (Lum, 2010; for an exception see Koper et al.

2014,). When some technologies are introduced in police organizations, they cause some changes in the way organizational members do their work. Sometimes changes brought on by new technology are as intended, but many times they are not (Manning, 1992; Manning, 1996; Chan, 2001; Koper et al, 2014). It is, therefore, important that BWC research also focuses on their impacts on organizational structures and practices. However, to gain a more comprehensive understanding of technological change, it is also important to understand how different groups in an organization make sense of technology over time (Chan, 2001).

Considering Relevant Social Groups and Technological Frames of Reference

An additional objective of this study is to learn about how the perspectives of different groups within an organization on BWCs change over time and what might account for the change. Learning about these perceptions promise to give greater context to interpreting how BWCs affect structures and practices. Many scholars across disciplines have explained that differences in the ways that organizational groups make sense of certain technologies can sometimes lead to resistance, non-compliance, apprehension, skepticism, failure to reach planned outcomes, and ultimately abandonment (Bijker, Hughes, and Pinch, 1987; Orlikowski and Gash, 1994; Bijker, 1995; Orlikowski, 1996; Chan, 2001; Davidson, 2002; Davidson, 2006; Chan, 2007; Sobreperéz, 2008; Olesen, Narayan, and Ramachandra, 2013). Therefore, there stands a chance that when different organizational groups make sense of technology in a way that is misaligned, it can lead to the failure of the implementation of that technology and/or unintended consequences.

At this point in time, aside from one study (Jennings et al., 2015) examining the influence of officers' race and gender on the use of BWCs, no research has yet compared how different groups within a police organization make sense of the implementation of BWCs. Bijker et al. (1987) first brought to bear the concept of *relevant social groups* (RSGs) in their work on the social construction of technology (also known as SCOT). They explained that relevant social groups are groups of individuals who due to hierarchy and/ or function have similar interactions with a piece of technology or innovation.

Orlikowski and Gash (1994) took this concept of relevant social groups and expanded on it by borrowing from organizational frame theory and focusing intently on technology instead of organizational strategy. According to Orlikowski and Gash (1994), members of similar relevant social groups tend to develop similar *technological frames of reference* (TFR) that guide their interpretations and interactions with technology in similar ways. Orlikowski and Gash's (1994) TFR theory establishes a conceptual framework through which to study how different groups within an organization make sense of BWCs, which will be explained in further detail in this section.

Technological frames of reference are much concerned with the way that people within an organization interpret and interact with technology (Orlikowski and Gash, 1994). Interpretations include assumptions, "tacit knowledge", learned knowledge, and expectations that exist, are formed and maintained as members of an organization interact with a piece of technology (Orlikowski and Gash, 1994). Technological frames are processes that run in the background as individuals build experience with a technology over time (Orlikowski and Gash, 1994) and cannot be treated as outcomes when they are

the focus of a study. Orlikowski and Gash (1994) explained that technological frames are formed, molded, and/or maintained by the interplay of interactions and interpretations of individuals with a technology.

One thing that is important to understand about technological frames is that they are not “sub-cultural”. Technological frames thus are “cognitive schemas” that people of different relevant social groups within an organization share about a technology (Schein, 1985; Sackmann, 1991; Sparrow, 1991; Bijker, 1995; Chan, 2001; Davidson, 2006; Sobrepererez, 2008; Olesen et al., 2013). Orlikowski and Gash (1994) emphasized that TFRs are individually held perceptions within the context of an organization that are based on interactions and interpretations with a technology (Bostrom and Heinen, 1977; Ginzberg, 1981; Orlikowski and Gash, 1994; Davidson, 2006). These frames can be the basis for sub-cultural views when shared, but sub-cultural views are in a way less specific than individual frames. Sub-cultural views are how groups make sense of, interact with, and think about things together, while frames of reference (i.e. technological frames) are how individual people make sense of different aspects of life and their environment (Orlikowski and Gash, 1994). Individuals who operate in similar areas of an organization tend to have very similar (but not exact) technology frames.

Orlikowski and Gash (1994) explained that technological frames can be both beneficial and detrimental to the implementation process of a new technology. They can help reduce or increase uncertainty and can reinforce or debunk stereotypical views about a technology. They referred to the alignment of frames as *congruence*. The “congruence” or “incongruence” of technological frames between individuals belonging to different

groups within an organization can have a profound impact on the use of that technology. When relevant social groups' technological frames are more congruent, the organization is less likely to experience difficulties during implementation and stand a higher chance of reaching planned outcomes (Orlikowski and Gash, 1994; Davidson, 2006; Sobrepez, 2008; Olesen et al., 2013). However, when significant incongruence exists, the task of successfully implementing a new technology will be far more difficult and can lead to unintended consequences, misuse, noncompliance, or to project abandonment (Orlikowski and Gash, 1994; Bijker, 1995; Orlikowski, 1996; Chan, 2001; Davidson, 2002; Davidson, 2006; Sobrepez, 2008; Olesen et al., 2013). Understanding how relevant social groups made sense of BWCs at a police agency can aid scholars and stakeholders in identifying possible contributors to congruence or incongruence to identify strategies that might aid to successful implementation and ultimately planned outcomes.

CHAPTER 3: RESEARCH QUESTIONS

As noted previously, I wanted to gain an in-depth understanding of how body-worn cameras have impacted the Sunnyvale Police Department over time. I decided to study the impacts of BWCs on certain organizational structures and practices and to empirically uncover the assumptions, expectations, and beliefs that framed how different relevant social groups understood body-worn cameras (technological frames). Therefore, research questions were broken into two groups: *Organizational Structures and Practices* and *Technological Frames*.

Organizational Structures and Police Practice

Research questions regarding organizational structures and practices were centered around structures and practices that could potentially be affected by BWCs based on my knowledge of both policing and BWC literature and were identified as *reporting, supervision, training, discretion, and citizen interactions*. Although this list of practices and structures was not exhaustive, it covered key aspects of policing. Justifications for why these structures and practices were chosen to be examined will be given simultaneously with the results of this study.

1. *How has the use of BWCs affected patrol officer autonomy and use of discretion, if at all? Has this had any impact on job satisfaction? How do other groups in the organization perceive changes in patrol officer discretion?*

2. *How, if at all, are BWCs used for training purposes? How is footage chosen for training purposes? What are the protocols and procedures for using the footage in training practices?*
3. *How is BWC footage used as a means of reporting their activities? Does it replace or supplement written reports? What are the protocols for using BWC footage in the reporting process? How do different groups in the organization view these protocols? How do different groups view the use of BWC footage in police reports?*
4. *What are some of the legal implications of recording police-citizen encounters? How do these implications affect the way officers interact with civilians?*
5. *How, if at all, have body-worn cameras changed the nature of supervision within the agency? Do police managers and supervisors use BWC footage to conduct performance reviews and to what extent do they rely on such footage? Do police managers and/or supervisors proactively or reactively review footage, to what extent, and for what purposes?*

Technological Frame Domains

In order to learn about how different relevant social groups, made sense of BWCs at Sunnyvale Police Department over time, five questions probed at this. As stated earlier, different relevant social groups can have different technological frames based on their position within an organization (hierarchy) or their duties, routines, and responsibilities regarding a certain technology (Orlikowski and Gash, 1994). However, Orlikowski and Gash (1994) also explained that technological frames can differ between relevant social groups within certain “domains”. They found that technological frames tended to operate within three domains. These domains included the *Nature of the Technology*, *Technology Strategy*, and *Technology in Use*. Research questions regarding technological frames were framed deductively around these three domains that Orlikowski and Gash (1994) established in their work. Davidson (2006) explained that although some other research

about technological frames in other contexts have established different domains, that those domains could still fall under the original three that Orlikowski and Gash (1994) established and therefore urged future TFR researchers to use the original three domains. These domains will also be discussed in further detailed in their respective positions along with the findings of this study.

- 1. What are the interpretations of the Nature of BWCs of individuals belonging to different groups within the organization? How do certain individuals belonging to different organizational groups perceive the functionality and complexity of BWCs and how have these perceptions affect their behavior? How have perceptions and behavior changes since implementation, if at all?*
- 2. What are the perceptions regarding the Technology Strategy of BWCs of individuals belonging to different groups within the organization and how much have they changed since implementation? What are the policies and protocols that guide the use of body-worn cameras and the data they produce? Why do different groups within the organization think these policies exist? How have perceptions and behavior changed since implementation?*
- 3. What are the perceptions of BWCs in Use? How do individuals belonging to different groups think actual practice differs from how agency protocols require officers to behave? What new opportunities have BWCs provided to police work and what have BWCs taken away from police practice? How have perceptions and behavior changed since implementation?*
- 4. Which factors have been most instrumental in forming, maintaining, and/or changing perspectives?*
- 5. To what degree do perceptions and behaviors differ among groups regarding these domains?*

CHAPTER 4: RESEARCH METHODS

Data for this study was collected through semi-structured interviews and field observations³. In addition, qualitative data was complemented with a short survey that was handed only to patrol officers after interviews were conducted. This was intended to provide an interpretive context for the qualitative findings. I used mixed methods in an attempt to capture in-depth and varied insights into the implementation of body-worn cameras. All subjects involved in interviews, observations, and the survey were de-identified using pseudonyms. They were each assigned a letter and number at random and a password-protected spreadsheet containing identifiable information was stored on a password protected third-party cloud storage service (OneDrive). This file was only available to me and my adviser. In addition, all subjects were made aware that participation in any or all of these data collection methods was voluntary and that all information was confidential and securely stored on a password-protected cloud server. Each participant was given a participation form to sign if they chose to participate in the study and were also asked to indicate whether they preferred to be audio-recorded during interviews. All participants indicated that they were willing to be audio-recorded during

³ Data was collected after receiving IRB approval.

interviews. A copy of the form was also given to each participant after they signed my copy.

Collecting data through observations and semi-structured interviews made it possible to probe the thoughts and perceptions of police officers. In addition, it made it possible to identify variables regarding the implementation of BWCs that have not yet been addressed by existing research. Qualitative methods such as semi-structured interviews and field observations provide more insight into the views and perceptions of subjects beyond the capabilities of quantitative research by itself (Cronbach, 1975; Eisner, 1991; Hoepfl, 1997; Maxfield and Babbie, 2008). However, preceding a detailed discussion of the methods is a description of the research site.

The Site and Participation

In my efforts to find a police organization to participate in this study, I identified all police agencies within a 100 to 150-mile radius of Fairfax, Virginia (which is where George Mason University is located). Most of this was done by using Google Maps and other web searches. I then worked my way from the inside outwards and researched each police agency to find out whether they were using body-worn cameras, to what capacity they are using them, and for how long they have had them.

A major criterion for selecting a suitable site was how long the department had been using BWCs. I ideally was looking for an organization that had already implemented and used BWCs for more than one year. An organization with more experience with BWCs should have provided more insight into the implementation process and the effects that BWCs have had on organizational structures and practices

than a site which was just beginning the implementation process and was still experiencing “growing pains” (See Rossi, Lipsey, and Freeman, 2004, p. 236). In addition, picking a site where BWCs were well established would also make it possible to study how technological frames of reference may have changed over time. My other criterion for site selection was based on geography: I needed a site that was also within reasonable driving distance.

Based on these criteria, I was able to gain the approval of the chief of a police department that will be known as “*Sunnyvale Police Department (SPD)*” to conduct my study. Sunnyvale PD was a small, city-level, local police agency located in the mid-Atlantic United States. According to FBI statistics from 2013, this department served a population of approximately 25,000 people and comprised less than 100 sworn officers. According to reports from 2011 and 2013 Sunnyvale PD received about 50,000 calls for service and made about 1,500 (included adult, juvenile, and DUI) arrests per year. Additionally, SPD served a population with about 10% under the poverty line. Sunnyvale was also a mostly suburban community, with a majority Black population. According to the US Census Bureau (2011), the racial make-up of the city of Sunnyvale was as follows: approximately 50% of the population was Black, 20% White, 15% Hispanic, 10% Asian, and the rest of the population was identified as First Nations or “Other”. According to UCR (2013) data, SPD handled 17% more violent crimes, but 12% fewer property crimes than other city jurisdictions serving similar population sizes in its home state.

The chief at Sunnyvale considered himself (and officers across the organization agreed) and his department to be one of the more progressive police departments in their county and state. “Progressive” is a term that a lot of the officers used when they were asked to describe Sunnyvale and what was meant by this term was that the department was often open to trying new policing strategies (e.g. community oriented policing) and technologies (like BWCs). The chief (members of the command staff also mentioned this) said that he was heavily involved in building ties with the community and has implemented a popular ride-along program for citizens who were interested in going on ride-alongs with police officers. In addition, the department held regular and frequent community events that included community feedback sessions, awareness programs, fundraisers, school outreach programs, and exhibitions. Sunnyvale also had a strong social media presence by periodically posting selected officer biographies, important information regarding suspects, interesting or amusing encounters officers recently had, or other community-related information on platforms such as Facebook and Twitter. Many officers at Sunnyvale, including the chief and command staff, took pride in the perception that the department is progressive.

Table 1 Breakdown of Study Participants

<i>Organizational Groups</i>	<i>Number of Members in Group Who Participated in Study/Number who used BWCs</i>	<i>Equipped with Body-Worn Cameras</i>	<i>Evidence.com Access Level</i>
The Chief	1/1	0	Administrator
Command Staff	3/4	0	Administrator
Supervisors	5/5	0	User
Detectives	6/9	0	User
Training Administrators ⁴	5/6	2	Administrator
Patrol Officers	23/26	23	User

Table 1 shows how many officers participated in the study and also shows what level of access they had to BWC footage on Evidence.com (Evidence.com is a third-party cloud storage service for BWC footage offered by Taser). All in all, there were 45⁵ officers at Sunnyvale police department who were either involved in the implementation of BWCs or interacted with BWCs in some way on a regular basis. Of these 45 officers, 38 participated in the study (84% participation rate). The table above outlines participation. There were 26 patrol officers equipped with the head-mounted Taser Axon Flex BWCs at Sunnyvale during the time of data collection, and 23 of them participated. Two declined participation while one had a medical emergency prior to the appointed time to meet for an interview and ride-along and was excluded from the study. The remaining patrol officers were asked to participate in two interviews, ride-along observations, and take the survey. Out of the 23 officers that participated in the interviews, 19 of them allowed me to join them for observations.

⁴ Training Administrators comprised a supervisor, 2 detectives, and 2 patrol officers.

⁵ Although Table 1 shows a total of 51 officers, the 6 training administrators also held other roles as indicated above.

Table 2 shows demographic and other descriptive information about of the patrol officers who participated in the study. The table shows that the majority of the 23 patrol officers were male, white, and in their mid-to-late twenties. While all officers held a high school diploma, concerning higher educations, most officers had taken some college credits. Lastly, regarding experience with Sunnyvale, 9 of the 23 officers had only been with the department for 2-3 years.

Table 2 Patrol Officer Characteristics N=23

<i>Characteristic Variable</i>	<i>Characteristic Attribute</i>	<i>Number of Officers</i>
Sex	Male	21
	Female	2
Racial or Ethnic Identification	White	17
	Black	2
	Hispanic or Latino	1
	Asian	1
	Native Hawaiian	1
	First Nations	2
Age	21-24	1
	25-29	13
	30-34	3
	35-39	2
	40-44	3
	45-49	1
Highest Level of Education	High School Diploma or GED	3
	Some College Less than Associates Degree	10
	Associates Degree	4
	Baccalaureate Degree	6
Years of experience with Sunnyvale Police Department	2-3 Years	9
	4-5 Years	5
	6-7 Years	2
	8-9 Years	3
	10+ Years	4

Semi-structured interviews were also conducted with supervisors of whom there were 5, 6 detectives (2 internal affairs, 4 external or both), 5 administrators, 3 command

staff, and I interviewed the chief twice. Some members of the command staff and detectives did not participate in my study as can be seen in Table 1 above. Additionally, an in-service, officer survival training session and a DUI checkpoint were observed. These research methods will be discussed in further detail in the sections below.

Semi-Structured Interviews

Semi-structured interviews were conducted with separate interview guides for the chief, command staff, patrol officers, supervisors (sergeants), training administrators, and detectives. These six different interview guides can be found in Appendix A. There is also an additional interview guide that was used during ride-alongs with patrol officers which can be found in Appendix B. Semi-structured interviews focused on both changes in organizational structure and practices and technological frame domains. Before further discussion of the interview protocols continues, it is quickly necessary to understand why semi-structured interviews were the method of choice over other styles.

Patton (1987) explained that there are three interview styles that qualitative studies can use: informal conversational interviews, semi-structured interviews, and standard open-ended interviews. Each of these has their benefits and drawbacks and are preferable over others within different contexts. Therefore, researchers must decide which interview type is most useful for their study. I decided to use the semi-structured interview guide style. A primary purpose of this study was to gather "rich" data in order to capture the attitudes and perspectives of police officers on body-worn cameras. Therefore, it was important to use an interview strategy that would yield in-depth, yet somewhat focused data. Where the informal, conversational type of interview may have

provided exceptionally "rich" data, it would have required a lot of time and would have lacked focus (Patton, 1987; Maxfield and Babbie, 2008). The standard, open-ended interview, on the other hand, would have been far too structured for what I was looking for. These types of interviews comprise preconceived questions that are asked to all interviewees in the exact same order and fashion (Patton, 1987). The intention of this study was to strike a happy balance between "natural" and "structured" information in selecting instruments and that is why I decided to choose semi-structured interviews.

The semi-structured interview falls between conversational and standard interviews in that the interviewer still has control over the topics of discussion, but allows the conversation to flow more naturally (Patton, 1987). With semi-structured interviews, I was able to cover all relevant topics and was able to probe after more information that ultimately solicited more in-depth answers from interviewees. With this interview style, I also was able to use terminology that respondents were more comfortable with and learned how and when to probe further based on how interviewees interacted with me. Patton (1987) makes a point that semi-structured interviews are effective for learning as much as possible when the interviewee's time is limited. Where I could have potentially wasted some opportunities to gain valuable insights by moving on to other topics too quickly with standard interviewing style, semi-structured interviews allowed me to find valuable, "rich" data with calculated probing decisions.

With the semi-structured approach, I had the freedom to further explore topics that were not initially anticipated. When that occurred, the flexibility of this approach allowed me to probe further and make a decision to add those topics to interview guides

to be used in subsequent interviews (for example see Maxfield and Andersen, 2002). For instance, during my very first interview, I learned that BWCs were assigned to officers for certain reasons. This approach allowed me to add an additional probe topic to the guides for future interviews. The standard interview would not have accommodated this and potentially valuable insights could have been lost.

Table 3, below outlines the seven different interview guides that were used during data collection. Most of the individual interview guides focused on the technological frame domains while some emphasized on more domains than others. Similarly, all of the guides with the exception of patrol officers contained questions about police structures and practices. Implementation questions were centered around how these groups were involved in the implementation processes, decision making, and the product evaluation. An additional *Ride-Along Guide* was used with patrol officers during ride-along observations to find out about all six structures and practices that were highlighted by the research questions. There were times when patrol officers agreed to an interview but declined to do a ride-along. In those cases, a second follow-up interview was conducted to get the needed information from them. How questions emphasized on certain structures and practices and/or technological frames differed by guide depending on the respondent's position in the organization or involvement with BWCs or their implementation.

Table 3 Interview Guides Discussion Topics

<i>Interview Guide</i>	<i>Administered to Group</i>	<i>Topics Covered</i>
Guide 1	Patrol Officers (23)	Technological Frame Domains <ul style="list-style-type: none"> • Nature of Technology • Technology Strategy • Technology In-Use
Guide 2	Training administrators (5)	Technological Frame Domains <ul style="list-style-type: none"> • Nature of Technology • Technology In-Use Practices and Structures <ul style="list-style-type: none"> • Training
Guide 3	Detectives (6)	Technological Frame Domains <ul style="list-style-type: none"> • Nature of Technology • Technology Strategy • Technology In-Use Practices and Structures <ul style="list-style-type: none"> • Investigations • Citizen Interactions • Discretion
Guide 4	Supervisors (5)	Technological Frame Domains <ul style="list-style-type: none"> • Nature of Technology • Technology Strategy • Technology In-Use Practices and Structures <ul style="list-style-type: none"> • Citizen Interactions • Supervision • Training • Discretion
Guide 5	Command Staff (3)	Technological Frame Domains <ul style="list-style-type: none"> • Nature of Technology • Technology Strategy • Technology In-Use Practices and Structures <ul style="list-style-type: none"> • Citizen Interactions • Supervision • Training • Discretion • Implementation
Guide 6	The Chief (1)	Technological Frame Domains <ul style="list-style-type: none"> • Nature of Technology • Technology Strategy • Technology In-Use Practices and Structures <ul style="list-style-type: none"> • Citizen Interactions • Supervision • Training • Discretion • Implementation
Ride-Along Guide	Patrol Officers (19)	Practices and Structures <ul style="list-style-type: none"> • Citizen Interactions • Supervision • Training • Discretion • Reporting • Investigations • Questions about Observed Citizen Interactions

To solicit participation in the study, I used e-mail. Before data collection, a meeting with the chief and a member of the command staff was arranged. During this meeting, we established a point of contact within the department, who subsequently provided me with a list of all officers' names, ranks, assignments, and email addresses. Initial emails were sent to the chief and the command staff, asking them to participate in the study and to set up a time that would work best for them to participate in an interview. The very first interview was conducted with the chief and subsequent interviews, for the most part, were arranged with officers of lower rank, moving down the bureaucratic structure of the department. Thus, patrol officers were interviewed last. Some officers were more responsive to emails than others, and I was at times forced to send several reminder emails before I was able to secure interviews with those officers.

When it came to patrol officers, I found that some officers were far more responsive to emails than others. In response to this challenge, I changed my strategy by asking each shift supervisor permission to address his (they were all male) squad at the beginning of a shift to inform them of my research and my interests in conducting interviews and ride-alongs⁶. This was a more fruitful strategy since officers who might have been reluctant or apprehensive participating, were able to ask me questions about the nature of my study, and I was able to address them before setting up an appointment with them. This strategy also made it easier for me to schedule ride-alongs with officers

⁶ I made sure that supervisors did not ask their officers to participate in the study and regularly emphasized to patrol officers that participation in the study was voluntary.

since many officers preferred to do both the interview and the ride-along back-to-back. After roll-call, we would either go to a conference room to conduct the interview or remain the roll-call room if no one else was present . Detectives, supervisors, and training administrators also participated in interviews in the same conference room, while command staff and the chief preferred their offices. Interviews with police officers lasted on average 40 minutes.

Interview data was collected using two voice recorders. In addition, notes were taken to capture any non-verbal cues. Interviewees were made aware that the conversation was to be recorded and had the option to opt out of the being audio recorded or the interview in general if they were uncomfortable with that. Luckily all participating officers consented to be audio recorded during interviews. Audio recordings were transcribed by the researcher into word documents that were subsequently uploaded to Atlas.TI analysis software. After audio recordings were transcribed, they were destroyed.

Qualitative analysis initially started with descriptive coding, which occurred simultaneously with the data collection process. Interview notes in addition to departmental documents (i.e. documents related to the implementation or use of BWCs) were coded using a start list of terms relevant to the research questions of this study. As new themes were discovered, corresponding terms were added to the list.

Coding focused on the two areas of research questions. All documents were first coded for changes in structures and practices and then for technological frames of reference. My approach to coding both interview and observation field notes was mostly centered around deductive coding where I already had certain codes in mind and created

a start list of codes (see Miles et al., 2014). However, there were times where I engaged in inductive coding as I found themes that were relevant to my study. During the first rounds of coding, data was clustered into broader terms in a start list and were then further qualified by sub-codes during subsequent rounds of coding as Miles et al. (2014) advised. As an example, for the practice of reporting, all content that related to reporting were coded with the master code: REPORTING, then during subsequent rounds of coding distinctions between perceptions and behavior were made by splitting content into either the REPORTING_PER or REPORTING_BEH sub codes. These codes were then further drilled down until specific codes were found (e.g. REPORTING_BEH_COMPLEX_use-of-force).

The coding process was made easier by using qualitative analysis software known as Atlas.TI which allows you to upload and import various formats of data sources into the program for coding and analysis. It helps you organize your codes by allowing you to create a coding structure (or network) of broader terms that break into more specific ones. Which is what was done with this study.

Observations

Observations occurred during ride-alongs with officers who were equipped with body-worn cameras. In addition to ride-alongs, I also observed an in-service training exercise that lasted roughly 6 hours and a DUI checkpoint that lasted 3 hours. These observations gave additional information on how BWCs were being used in the field. Maxfield and Babbie (2008) explain that field observations are a perfect means for gathering data in a “natural setting.” The purpose of including observation in this study

was to provide further context and gather additional insights into what I learned during interviews and via survey responses. Observational data, complemented by survey and interview data aided in producing a richer understanding of how BWCs are used.

Observations were used to gain insight into how officers used BWCs in accordance with departmental protocols and policies. Observations provided an opportunity to address when officers started to record encounters, how they used discretion, how they handled the footage after it has been taken, and how the footage was stored and organized. In this regard, observations highlighted all aspects of this study and adequately complemented the self-report data from interviews and the survey (Maxfield and Babbie, 2008).

During the observations, patrol officers were asked additional questions. These questions mostly involved organizational structures and practices the actual encounters that were observed. For those officers who did not participate in the observations, the questions were asked during the first interview, or a secondary interview was scheduled. Out of the 23 patrol officers who participated in the study, 19 of them allowed me to observe them during ride-alongs. During observations, 49 citizen encounters between police officers and citizens were witnessed. Of those 49 encounters, I only included 44 for analysis. During one encounter it seemed as if the officer's behavior was influenced by my presence. While during the other four, I was asked to remain at a distance from or away from an encounter to ensure my safety. In these four cases, I was unable to observe the encounters in their entirety, nor was I able to hear what the officer(s) and citizen(s) said. Citizen encounters were defined as interactions that the departmental policy

mandated them to record (even when some officers forgot to record the events). The reason for this is because this study focused on how BWCs were used and thought of and part of it was to focus on how officers made sense of BWCs as part of citizen interactions. Therefore, using the definition that created the citizen interaction context for officers seemed more appropriate than creating an arbitrary definition that might have missed some pertinent instances.

On average I witnessed about two encounters per ride-along, however, three officers allowed me to join them for second ride-alongs. In order to avoid bias as much as possible, I tried to secure ride-alongs with as many officers as possible before requesting second ride-alongs with those officers who offered to have me along again. On average, observations lasted 135 minutes each.

Observational data was collected using a voice recorder and written notes. Shorthand notes were taken during observations that were turned into more detailed notes. The audio recorded data was transcribed, revised, cross-referenced, de-identified, and along with the field notes, imported into Atlas.TI for coding and analysis.

Coding centered around observations focused on the behaviors of officers in addition to that of the citizens and how BWCs impacted those interactions. There were two main categories of codes, RIDE_OBSERVATION, and RIDE_OFFICER_PERCEPTION. The former involved my own observations while the latter involved how officers perceived what occurred during citizen encounters. Subsequent rounds of coding then focused on officer and citizen demeanors and behaviors and officer's perceptions of encounters. By doing this, I was able to easily find

when one of my own observations came in conflict with the perception of an officer. For instance, officers at times would claim that they noticed a citizen became more compliant when they became aware of the presence of a BWC while it did not seem to me as though they changed their behavior all the time. In cases like these codes like RIDE_OB_CITBEH_Compliant and RIDE_OP_CITBEH_Civilizing would co-occur.

Using qualitative analysis software made it easier to quantify qualitative data to find certain relationships that might exist between certain variables. This is especially true when looking at how factors such as primary citizen race, alleged offense, and demeanor affected officer behavior. This was necessary for this study since a very important aspect of this research focuses on how BWCs impact police and citizen behavior during interactions.

The Survey

As noted earlier, I used a self-created survey that used some items from previous surveys conducted on police technology. Despite caveats from scholars such as Maxfield and Babbie (2008) against using self-created surveys, there were no pre-existing surveys focused on the impacts of body-worn cameras on organizational structures and practices and technological frames at the time of data collection. However, self-created items were combined with some items from existing surveys on police technology.

The purpose of the survey was to collect quantitative data about both research areas: structures and practices and technological frames of reference. Using a survey allowed me to complement qualitative data with quantitative data, allowing me to make comparisons across officers on different variables. Much like a survey by Chan, Brereton,

Legosz, and Doran (2001), the survey used in this study produced mostly ordinal data by using a Likert/opinion scale. Respondents were posed with statements and they could choose to what degree they agreed or disagreed with a statement. Some of the background information that was gathered regarding demographics, rank, experience, and educational attainment were not done through Likert-style items. In addition to asking officers about their demographic information, the survey also asked officers about their perceptions regarding certain structures and practices that included reporting, discretion, training, police-citizen interactions, and supervision. The survey can be found Appendix C.

The survey was created using Question-Pro and was administered to patrol officers electronically. After interviews with patrol officers, they were presented with the opportunity to take the survey. Unlike many electronically administered, this electronic survey was not administered via email. Email-based surveys have their disadvantages in that they can be mistaken for spam and automatically deleted (Maxfield and Babbie, 2008). Furthermore, police officers who were less inclined to use email may also have not wanted to take the survey. It may also have been that police officers who had more negative views of new technology in general, may have been less likely to take an online, email-based survey. Therefore, the survey was conducted electronically on an HTC Nexus 9 tablet that was connected to the internet via 4G. I quickly explained the survey and how to use the tablet and waited outside of the conference room where the officers took the survey in the case that officers had further questions.

Instead of handing out a paper version (although a paper version was available if an officer requested one, which no one did), it was much more preferable to use a tablet since the tablet automatically sent the survey data to a secure cloud that was hosted by QuestionPro. Paper surveys run the risk of being misplaced or accidentally destroyed. These risks were drastically reduced when the survey data was automatically sent to and stored on a secure cloud server. Another benefit of QuestionPro was that QuestionPro automatically rendered the data in a form that is ready to be analyzed or exported to Excel or SPSS and other statistics software. Thus using QuestionPro was a significant source of time savings. Since I only had a very small number of survey respondents, I used Microsoft Excel for my analysis. Using Excel allowed me to perform cross-tabulations to seek relationships that might exist between different variables. An example of this is to see if age or experience have any impact on how patrol officers view the complexity of BWCs.

CHAPTER 5: ORIGINS AND DEVELOPMENT OF BODY-WORN CAMERAS AT SUNNYVALE POLICE DEPARTMENT

Much of the findings that I present in the following two chapters depend on understanding the implementation process and body-worn camera policy at the Sunnyvale Police Department. That is why I have set aside an entire “mini-chapter” devoted to creating the context needed to understand my findings. I begin by describing the implementation of BWCs at Sunnyvale and then move to discussing some important factors about the BWC policy.

Adoption of Body-Worn Cameras at Sunnyvale

At the time of implementation, which was 3.5 years prior to data collection⁷ there were two types of body-worn cameras on the market, those that were mounted on the body (e.g. the chest or lapel) and those that were mounted to the head of an officer (e.g. around the ear or on a helmet/hat). Furthermore, there seemed to be a vast selection of different types and brands of BWCs to choose from. At the time of implementation two brands dominated the majority of the market, Taser (Mitchell, 2010) and Viewu (Hayes and Ericson, 2012).

According to Hayes and Ericson (2012) and SAVER (2011), BWC products offer different features. Hayes and Ericson (2012) listed some features that differ among BWC

⁷ Data collection occurred in the Summer of 2015

products: battery life, video quality, audio recording, camera focal point width, night-time recording capabilities, and radio integration capabilities. These specifications dictate the price per unit, and it is up to police organizations to decide which features are most important concerning organizational needs and budget.

The Sunnyvale Police Department chose the Taser Axon Flex units, which were head-mounted devices that attached either to sunglasses or headbands. Implementation started with an initial batch of 8-10 cameras. Although there were some discrepancies among organizational members as to why BWCs were implemented at Sunnyvale (which is discussed later in more detail), the general consensus was that it initially centered on training new officers and protecting the department against complaints. In speaking with all of the organizational members, there was little community pressure or outside influence to adopt the cameras. However, there was an event that involved an officer punching a handcuffed suspect that was caught on cellphone video and initially led to a multimillion dollar lawsuit against the department (this event will also be discussed in more detail later). BWCs were adopted shortly after this event.

The first batch of BWCs was given to field-training officers (FTOs) to wear while doing field training with new recruits⁸. Upper management wanted FTOs to record the training of new officers to have the training on file and so that training officers could use the footage to provide constructive criticism to recruits. The command staff also wanted training footage on file in the case they decided to terminate an officer who was underperforming during field training, the footage would serve as proof of the officer's

⁸ All field training officers were in patrol and either held the rank of private first class or corporal.

performance during training. Also, the FTOs could use the footage to help officers learn from being able to view their own behavior by showing them footage.

Since initial implementation of BWCs, the department had been adopting batches of 8-10 BWCs annually and equipping officers who either asked for them or have had a substantial amount of citizen contacts. According to the one member of the command staff (although all shared this sentiment): *“With more citizen contacts, officers have more complaints, and the cameras would be used as a means to investigate complaints.”* At the time of data collection, Sunnyvale had reached 75% implementation and was planning on equipping the rest of their patrol units with BWCs the following year. The primary reason for implementing BWCs in batches was to lighten the financial burden of having to purchase all the cameras at once and having to replace or pay for maintenance around the same time (assuming they would all exceed their shelf life around the same time).

Two criteria were important to the implementation team when they decided to go with the Taser Axon Flex models: the cameras were head-mounted and Taser offered the Evidence.com service. The chief explained that he wanted the officers to have head-mounted cameras because, in his mind, the head-mounted cameras offered a better picture of what the officer sees. When he viewed footage from cameras that were mounted on the lapel or in the center of an officer’s chest (during product evaluation), he felt that the camera’s view was often obstructed by the movements of an officers’ arms during regular tasks. The chief explained the benefits of having head-mounted cameras:

“You know, you're not blocking, again. As I'm approaching you or giving you a citation with the chest mounted one, all you're getting is my hands in front of me or the book, the ticket book or something. You're not actually seeing the reaction; you're not seeing what the officer is seeing. As I'm approaching, there

might be a gun in the center console. There may be drugs on the passenger seat. If I'm blocking the view of the camera with my hand or with a ticket book, you're not going to pick it up. So as I'm approaching it, as my eyes are seeing it, the camera is picking up basically the same thing."

Another very important factor in choosing Taser was the availability of Evidence.com. Taser offered a third-party storage option on a secure cloud server that customers could subscribe to. The chief explained that there would be no point in implementing BWCs if he could not guarantee the integrity of the footage. With Evidence.com, the BWC footage automatically uploaded to the cloud server when the BWCs were put in the charging dock at the end of the shift. It does not allow officers to delete or edit videos. Since the police have no control over the footage, the chief and his implementation team felt that Evidence.com would eliminate any questions about the legitimacy of the footage, whether it was from the public or courts.

With Evidence.com customers could choose what data was stored and how long it was stored for. At Sunnyvale, they decided to keep all video data for 6 months before it got purged. Data that were relevant to investigations or cases were labeled with a case number and saved indefinitely. At the time of implementation and data collection, Evidence.com offered two access security levels: "admin" and "user". Since one of the primary reasons for implementation was for training purposes, the department gave admin access to some of the field training officers in addition to the commanders. Only one of the officers that I had interviewed had admin status and was not a training officer nor a member of command staff, but he had been moved from being a field training officer to investigations a few days prior to data collection. Those in the command staff who had admin access, however, did not do any "administrative work" (assigning footage

and burning copies) with the footage, they only had that level of access in order to be able to look at any officer's videos (for random spot checks as indicated in the departmental policy)⁹. The other officers with admin status were tasked with administrative duties regarding the footage. These duties included burning DVDs for the court, linking videos together for officers, handling email requests regarding footage from users, documenting in-service, field, and remedial training footage, and submitting maintenance requests to Taser in the case that BWCs break or malfunction.

Officers with "user" access could access their own footage on Evidence.com or in the field with the Taser Axon APP that they downloaded can onto their smartphones if they chose to do so. The APP connected directly to the actual BWC unit via Bluetooth. This allowed officers to view the footage that was stored on the hard drive of their BWC unit directly in the field. They could also use the APP to tag their footage with metadata before it is uploaded to Evidence.com. They were not mandated to use the Axon APP and some officers chose not to do so because they did not want their personal phones to be subpoenaed for court. As will be discussed in further detail in the chapters to come, some officers preferred using the Axon APP for writing reports and for accessing footage while other officers preferred using the PC version.

When it came to the roll-out of the BWCs, FTOs were trained by Taser. They went through a 10-hour training session and were taught how to operate and maintain the BWCs and how to navigate and use Evidence.com. The chief then put these FTOs in

⁹ Something important to note is that first-line supervisors at Sunnyvale did not have admin access to footage until one week prior to the end of data collection. Supervisors' duties in terms of BWCs as mandated by the policy was to make sure that all of the officers in their squad who were assigned BWCs properly equipped their units.

charge of training BWC recipients on how to use the devices and Evidence.com. The Table below shows patrol officer responses on the survey regarding the training they received from FTOs on the devices.: the majority was very satisfied with the training that they received.

Table 4 Survey Responses on Quality of Training Received from FTOs (N=23)

<i>Survey Item</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>N/A</i>
I was given an adequate amount of training on how to use my BWC.	10	12	0	1	0
I was given an adequate amount of training on how to access BWC footage.	11	10	2	0	0
I was given an adequate amount of training on how to retrieve BWC footage.	10	11	1	0	1

These FTOs also served as the point of contact for patrol officers for when they had issues with either Evidence.com or the devices. After the command staff chose who would receive BWCs, the FTO's were told to provide those chosen officers with the BWCs and train them on it. Sometimes the FTOs were able to fix malfunctioning BWCs with spare parts, while other times, the FTOs were put in charge of contacting Taser with more complicated problems related to BWCs. FTOs explained that the troubleshooting process with Taser is convenient and effective and that problems are typically turned around within a matter of a week.

A major factor in the implementation process was creating a policy that would dictate how BWCs were going to be used by the department. The command staff reported expending much effort on creating a policy that would be easy to understand and addressed the needs of different stakeholders by allowing those stakeholder groups to

provide feedback on a draft of the policy. I will discuss the policy creation process in the following section in detail in addition to how the policy offered guidance on the use of BWCs and review of footage.

Sunnyvale's Body-Worn Camera Policy

Prior to the acquisition of any of the body-worn cameras at Sunnyvale, the chief, and his implementation team first drafted their BWC policy and vetted it through different groups inside and outside of the department. These included the NAACP, Fraternal Order of Police (FOP), ACLU, and some field training officers (FTOs). They allowed each of these groups to give feedback on the original policy draft. The reason for doing this was because the chief anticipated some pushback from both the officers and the community and invited these groups to provide feedback to reduce any anxiety. The chief explained:

“Well let's go a little further back, when we started talking about [BWCs], we wrote a policy, we vetted the policies through everybody and anybody that we thought we could. We had all kinds of legal reviews with the NAACP, the ACLU, the FOP, everybody and anybody that I could think of, I vetted it. So, we came up with a policy, we put the policy up. We made a decision to go with these cameras.”

The chief goes on to discuss the importance of involving other groups in the policy creation process. In the quote below, he discusses the importance of including the FOP and some FTOs in the policy writing process.

“It was kind of testing the water. You know the FOP had their input, they were actively involved. That's what I think one of the things that I probably want to do more often with other policies like the promotional process. You know I go to them, I say: 'here's my draft, mark it up, I'm not telling you are going to get everything you want, but give me some suggestions about what will make it easier for you as the FOP to support it and endorse it'. What that does is it gives them some ownership, they believe and they know that they were actually involved in

the final product so it gives them some of the ownership. It's not just: 'the chief says'. 'We collectively decided that that is the way it is supposed to go'. They feel like they are part of it."

In addition to involving groups from within and outside of the department in the creation of the policy, they also kept the policy very brief and straightforward (it is only 3 pages long and framed in very general terms). For example, the key purpose of the policy is described as “to assist Department personnel in the performance of their duties by providing an accurate and unbiased recorded account of an incident” Some of the major points were:

1. Officers had to record all interactions with citizens in public.
2. Officers had to ask if citizens consented to be recorded if they were in a domain where there was a reasonable expectation of privacy. This included private residences and hotels.
3. Officers were mandated to “label” or “tagged” all footage that had resulted in a criminal arrest or traffic citation.
4. Once footage had been “labeled” or “tagged”, they were stored on the server indefinitely or until they had been marked for deletion.
5. BWCS could be used to record training for evaluation and documentation by FTOs.

The policy also stated that command staff could randomly review footage, to look for “officer safety issues”. Similarly, some FTOs who were administrators (aka training administrators) were mandated by the policy to randomly review footage to find training material and look for major safety violations. Although the policy did not state this, there

seemed to be an understanding that officers were not to be charged with “minor” offenses unless it was brought to the attention of management through a citizen complaint¹⁰. When individuals belonging to groups throughout the organization were asked about the policy, many of them mentioned that this was a part of the policy, even though the policy made no mention of this.

¹⁰ Virtually every member of the Sunnyvale Police Department shared this with me when I asked them about the policy. This was especially true with the command staff who all mentioned that BWCs would not be used to get officers in trouble for minor policy violation and that they would only be charged with minor policy violations if it were as a result of a citizen complaint.

CHAPTER 6: UNDERSTANDING THE IMPACTS OF BODY-WORN CAMERAS ON STRUCTURES AND PRACTICES AT THE SUNNYVALE POLICE DEPARTMENT

The focus of this chapter is about the extent to which body-worn cameras had changed key police organizational structures and practices at Sunnyvale Police Department. The structures and practices of interest were *reporting*, *discretion*, *training*, *police-citizen interactions*, and *supervision*. Knowing how, if at all, these practices and structures were affected can tell us much about how BWCs are shaping, or can shape police departments as they diffuse across the nation. Police technology does not always work the way that proponents expect (Orlikowski, 1996). New technology can have small-to-modest effects on desired outcomes, can be misused or undermined in some ways, can be abandoned, can merely be used in ways that conform to traditional police practices, or can produce undesirable or unintended outcomes (Manning, 1992; Manning, 1996; Chan, 2001; Chan, 2003; Willis, Mastrofski, and Weisburd, 2007). This is important in the context of BWCs since no research has focused on how BWCs have impacted police organizations.

In this chapter I discuss how BWCs have changed some key structures and practices, assessing change as low, moderate, or high based on how much implementation had made inroads into previous practices. I found that BWCs impacted some features of the organizational life more than others, showing only moderate changes

to reporting, training, discretion, and police-citizen interactions, but practically no change to supervision. Officers spent more time writing reports about certain complex cases (e.g. DUIs, use-of-force, car accidents, assaults, and multiple offenses) to include details that more closely resembled what was found in the BWC footage to avoid scrutiny from superior officers and the courts. Some officers explained that their decision-making had been impacted in a way that they had become more legalistic and second-guessed themselves in the field. Within the context of training, BWC footage was sometimes used as source material for in-service training scenarios and to provide constructive criticism to officers. However, the most consistent use of BWCs for training was to merely document in-service, field, and remedial training. BWCs impacted police-citizen interactions in the way that both police officers and citizens interacted with each other. Some officers reporting exercising more verbal caution, while based on my interviews and observations, the presence of BWCs did seem to encourage citizens to be compliant with officers. Although supervisors did sometimes use BWC footage to explain police behavior to dissatisfied citizens, supervision had experienced very little change since the review of footage related to officer conduct and performance were mostly reactive and only in response to complaints. Moreover, until recently, supervisors had not been given access to review footage (they had to request permission). While proactive review of footage was infrequent and informal, and more focused on spotting safety and training issues than on providing a comprehensive assessment of officer conduct and performance.

I conclude that the greatest effect of BWCs was increasing officers' general sense of accountability across a number of domains. This was supported by 19 of 23 patrol officers reporting on the survey that they felt more accountable for their actions wearing BWCs. However, interview data revealed that their sense of increased accountability was driven by the possibility that their actions were recorded, which made different aspects of their work visible to others to be scrutinized. Thus, BWCs affected the scope of accountability and was related to the modest changes in reporting, discretion, training, and police-citizen interactions. However, the little change in supervision indicated that BWCs did not affect the intensity of accountability at Sunnyvale as proponents of BWCs might have imagined. It seemed that this was mostly due to the way BWC were implemented; in a way to avoid disruption to existing organizational structures and practices, given the way access to the footage was granted, the BWC policy was worded, and how the footage was reviewed.

Reporting

Since body-worn cameras are devices used for documenting or recording information (Harris, 2010), BWCs could have been a source of significant change at Sunnyvale within the context of reporting. Police reports tend to rely on the "good word" of a police officer involved in an incident. Since visual and audio depictions of events can provide complete depictions of what happens than an officer's memory, it stands to reason that BWC footage could change, or potentially even replace, how police officers write their reports.

Scholars such as Ericson and Haggerty (1997) and Chan et al. (2001) have explained that with the increase in technological advancements, especially with information technology, officers seem to be spending an increasing amount of time in front of computer screens, writing reports and accessing data than performing traditional policing tasks. Additionally, Chan et al. (2001) explained that information technology makes officer's actions (including reporting) more transparent to members of the courts or the public. BWCs are certainly a form of information technology. Since there is a lack of research on how BWCs have impacted police reporting practices, given what is known about information technology within the context of reporting, I was curious to learn how the introduction of BWCs had shaped reporting practices at Sunnyvale. This was especially true concerning how transparent BWC footage made police reporting practices and how much time officers spent writing reports.

BWCs could bring about significant changes in reporting practices. For instance, BWC footage could potentially replace written reports since the recorded video could offer more relevant information to a case than an officer's recollection of a citizen interaction. BWC footage of a citizen interaction could be linked with a recorded, verbal report given by the officer in order to have both the recording of the event and the officer's report in the same format. This could potentially save time since the officer could recite what happened instead of typing it up and have more time in the field. BWCs could also be used to film other relevant evidence. For example, an officer might find crack cocaine on a person during a vehicle search. The BWC video showing the officer finding the crack could be linked together with subsequent footage that was taken with

the BWC showing the officer testing the substance to prove that it is indeed crack and weighing it to show exactly how much of the substance was recovered. Another example could involve the department establishing formal procedures for how officers should integrate the use of BWC footage in their reporting practices. Such changes related to the adoption of BWCs would be significantly different from traditional reporting practices.

What I found at Sunnyvale was that there was a modest change in reporting practices related to the adoption of BWCs. While all officers reported on the survey that they used BWC footage when they wrote their reports, many officers indicated on the survey that BWCs had not changed the way they wrote reports (see Table 5). What initially seemed like a contradiction was clarified with interview data. While officers still wrote their reports the same way that they always had (based on their recollection of a citizen encounter), they did not reference BWC footage for every type of case. Instead, they preferred to reference footage in cases that they claimed were “complex” when writing reports. They explained that with these cases they would spend more time writing their reports as they carefully looked over the BWC footage. Complex cases demanded a lot of detail, and with BWCs, these reports became more transparent to the courts or supervisors. In other words, officers spent more time writing reports about cases where their reports would likely be compared to BWC footage.

Table 5: BWC End-User Survey Responses on Reporting Practices. N=23

<i>Item</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>N/A</i>
I use BWC recording to help write official reports.	11	12	0	0	0
BWCs help reduce the amount of time spent doing paperwork.	1	9	13	0	0
BWCs make gathering evidence easier.	16	7	0	0	0
BWCs require me to change the way I report my activities.	0	2	13	8	0

Officers explained during interviews that although they have all used BWC footage to help them write reports, it had not changed the way they went about writing their reports. Like before the use of BWCs, they still wrote their reports based on their recollection of events. However, with certain cases, that they deemed “complex” or cases that took a long time to unfold, officers had started referencing BWC footage to make sure that they had the necessary details in their reports to attain success in court. Some of these “complex” cases that officers mentioned during interviews included driving under the influence (DUI), use-of-force, incidents that involved multiple offenses, failure to comply cases, automobile accidents, and assaults. These were the types of cases that required the most detailed and accurate record of what actually transpired.

All 23 patrol officers explained that they used BWC footage when they wrote reports about DUIs. With cases such as DUI’s patrol officers told that when their reports did not exactly match what occurred on the video, they could have their cases thrown out. This was the same for other types of cases that patrol officers deemed as “complex.” The general sentiment among patrol officers at Sunnyvale was that the court system in their

jurisdiction was very forgiving of defendants especially when it comes to DUIs and defense attorneys started to use BWC footage to put their reports in question. A patrol officer explained:

“Because you have to watch your P’s and Q’s now, you have to dot your i’s and cross your t’s. If you fudged something on a report a long time ago, you’re not going to be fudging that now because if what you write isn’t what happened on video, that’s not going to, the court’s going to tear you up.”

Therefore, officers started to learn that to attain success in court, they had to make sure that their reports were accurate but also contained detailed information. In other words, the transparency brought about by the accompanying BWC footage held officers accountable for the quality and accuracy of their reports. Before BWCs, reports, for the most part, depended on the testimony of the officer, but BWC footage was used by the courtroom workgroups to put the validity of an officer’s report into question.

Officers at Sunnyvale, initially experienced some trouble in court when their reports would not entirely match up with what transpired in the BWC footage. Or they would get in trouble with superior officers when their reports did not match the footage during a use-of-force investigation. However, with time, officers started to spend more time reviewing footage and making sure that they wrote more accurate and detailed reports. Once they started doing this, they began to learn that they were having more success in court and writing more detailed reports that took a little more time for complex cases, became the norm with patrol officers at Sunnyvale.

To use DUI stops as an example: prior to the adoption of BWCs, officers had to take notes on a notepad or have another officer present to help administer the field sobriety test when they pulled someone over for a DUI. However, with Sunnyvale’s

acquisition of BWCs, patrol officers were able to monitor their surroundings and administer the sobriety tests with full attention. The following quote from a patrol officer serves as an example:

“Well with DUI cases, it really helps. Before I would have to pay attention to anything like the traffic and the demeanor and behavior of the citizen. So I would take notes on my little notepad, and that would be turned into my report. But now I just have to focus on the suspect, and I don’t have to take notes because when I write my report at the end of the day, I can reference the footage on my phone and make sure I add details that are relevant and specific quotes.”

In fact, 19 of 23 officers claimed that they felt that BWCs helped them be more detailed in the way they wrote reports regardless of going to court with video evidence. Whether they felt as though a certain case may go to court or not, officers mentioned that there were three ways in which BWC footage helped them provide more detailed reports: contextual information, exact quotes, and time stamps.

Fifteen officers said during interviews that BWC footage had helped them capture and include contextual information about incidents or suspects when they wrote reports. Several officers used the term “meat on the bones” when they referred to the contextual information that helped them produce higher quality reports. An officer explained some of the contextual information that he had been able to use in his reports.

“I have always been detailed, but even more now to see [the suspect’s] reactions that I can be more detailed on their... you know ... they are actually...l if they are making a fist, clenching fist, grinding their teeth you know? that I could be more accurate about everything.” [patrol officer]

In addition to contextual information, ten patrol officers explained that they added detail to their reports by including exact quotes of what people involved in an incident said. Officers explained that when there was something specific that was said that caused

an altercation or served as probable cause, officers would quote exactly what the suspect had said in their reports. Lastly, the third aspect of BWCs that officers have done to add more detail to their reports was to include time stamps. A patrol officer discussed the benefits of having a BWC with him when handling a DUI:

“You are not diverting your attention by writing down clues and then it’s not like ‘aw man I didn’t see that’. Also, the video has a timer on it so you can put down exact times. You know, and you can add exact quotes in [the report] about what the defendant says and when they say it.”

Since the BWC footage included a time stamp display, officers felt as though they could provide a complete sequence of events, which might not have been as accessible to them prior to the implementation of BWCs at Sunnyvale.

Chan (2001; 2003) explained that new technology can make the work of patrol officers more transparent to the courts and members of the public. Historically, the actions of the police have been mostly hidden from the courts unless a citizen brings a complaint (Gould and Mastrofski, 2004). BWC footage made it possible for members of the court to verify the details and judge the validity of Sunnyvale police reports. Over time officers had started spending more time writing reports and consulting the to add more detail and accuracy to some of their reports and seemingly experienced more perceived success in court. With all complex cases, officers were spending more time writing reports, but in their view producing some reports of higher quality regardless of whether it was going to go to court.

In sum at Sunnyvale, despite all officers indicating that they used BWC footage when writing some reports, the implementation of BWC only had a modest impact on reporting practices. As I explained earlier, a more significant change in reporting

practices might have been manifested by BWC footage replacing written reports or officers using the footage to capture themselves booking and processing evidence and linking footage with the footage that was captured during a citizen interaction. Another example might have been linking BWC footage captured during an encounter to footage where the officer recites their recollection of what had happened to save time. However, I did not find this; I instead discovered that BWCs modestly changed reporting practices at Sunnyvale and that this modest change seemed to be mostly driven by how reporting practices for cases that demanded much detail and accuracy were made transparent to the courts and supervisors via accompanying footage. BWCs had not replaced written reports, officers did not use BWC footage with every report, nor were there any formal procedures put in place to guide their use of BWC footage in reports. Sunnyvale officers only referenced BWC footage when they wrote reports for cases that they deemed complex and thought would receive much scrutiny in court. With such complex cases, officers decided to spend more time referencing footage and adding details that included contextual information, time stamps, and exact quotes to bolster the quality and accuracy of written reports.

Discretion

Police officers are often characterized as “street-level” bureaucrats, where a great deal of discretion or decision-making power lies with those at the bottom of the organizational structure (Wilson 1973). Stojkovic, Kalinich, and Klofas (2012) define discretion as “the latitude practitioners have to choose alternative decisions outside of written procedures and rules. For example, a decision to not make an arrest or not

prosecute (p. 380).” Discretion of line-level staff in criminal justice organizations can have substantial effects on the public since their decisions can impact whether a member of the public will move on to the next stage of the criminal justice system or not (Wilson, 1973; Stojkovic et al., 2012; Walker and Katz, 2013).

There has been some debate on the topic of discretion, where some scholars have demanded it be abolished (Goldstein, 1960) since discretion leaves room for officers to make low visibility decisions that could undermine the rights of citizens and lead to corruption, denial of due process, and unequal protection under the law (Davis, 1975; Walker, 1993; Kelling, 1999). Other scholars have argued that discretion is necessary and that although police officers must enforce the law, it is not always a realistic task to apply it to a full extent. Police officers (and other criminal justice agents) need discretion as it serves as a lubricant that keeps the entire system running smoothly (Muir, 1977; Zao et al., 1999; Walker and Katz, 2013). However, police officers are human beings who make mistakes, can be negligent, and sometimes be deviant, therefore, it is important to keep in mind that while there are aspects of police officer discretion that can benefit the criminal justice system and society, this same discretion can lead to undesirable results.

If we consider the national debate about BWCs and police accountability, discretion is right in the middle of it. It was decision-making that led to Darren Wilson shooting Michael Brown, it was decision-making that led to the death of Eric Garner, and again the same decision-making, by low-ranking officers that lead to ignoring the pleas of Freddie Gray. The police have in their possession the power to impact a person’s life in a significant and long-lasting way. In regards to these well-publicized cases, police

decisions had led to the unnecessary deaths of the citizens involved. It makes sense that there have been calls for more control on police decision-making. However, some literature expresses the importance of how police decision-making is controlled.

Kelling (1999) explained that rules regulating police behavior tend to neglect the context-rich day-to-day situations that officers face on the streets. Rules centered around controlling police discretion tend to be framed in a way of telling the police what *not* to do as opposed to telling them what they *should* do (Kelling, 1999; Mastrofski et al., 2000). The guidance that police get on how to make decisions from the law and departmental policy does not seem to be too helpful to how to make decisions on the street and makes it easier to get officers in trouble for decisions they do make. Kelling (1999) quotes James Q. Wilson: "...as rules that 'tell us what we shouldn't do' and thus 'give the brass plenty of rope with which to hang us' but that 'don't tell us what we should do'". (p. 2) This already puts the police in between a rock and a hard place when it comes to making street-level decisions. Historically, decisions made on the street by the police have been less visible to others (Goldstein, 1960) and allowing the police to make decisions more freely without much scrutiny. However, BWCs that can shed light on the decision that they make could potentially have significant impacts on how the police exercise their discretion especially since BWCs are seen as a tool that can contribute to making police officer behavior more visible to the public (Jennings et al., 2015).

Some initial research on BWCs has found that officers wearing BWCs tend to increase arrest activity and citation activity (Owens et al. 2014; Ready and Young, 2015; Katz et al., 2015). Now this research is on BWCs and discretion is still in its infancy

very, but it could be interpreted in a way that indicates that officers' discretion had been affected by the presence of BWCs. Since BWCs can potentially shed light on street-level decisions and make it possible for others to scrutinize them, I was interested in learning how BWCs had impacted officer discretion without limiting my focus to decisions about arrests and citations. Were BWCs making it more likely that officers would adhere strictly to the law and department policies than before their implementation? Did this vary across different types of situations or the kinds of incidents they encountered?

Based on my surveys and interviews, the impact of BWCs on patrol officers had been uneven. Some felt that it had made them more legalistic in their decision-making, especially when it came to petty offenses. Some also said that BWCs had made it more likely that they would second-guess their decisions on the street. Other officers reported, however, that BWCs had not affected how they made decisions. Because the presence of BWCs had not fundamentally changed the way that officers made decisions and because only about half of the patrol officers reported any change at all, I rate the impact of BWCs on discretion as only moderate.

One of the more common phrases mentioned by Sunnyvale officers during interviews was: "*Monday morning quarterbacking*." This term has also received some scholarly attention (see Bittner, 1983). It refers to when an audience, whether it was supervisors, command staff, training administrators, people in court, or the public, without being present during a situation, make judgments about an officer's decision-making ex-post facto (Bittner, 1983). Since patrol personnel in the field are "in the moment" and have to make decisions quickly, the luxury of having time to think about

the right course of action is not always afforded them. Officers at Sunnyvale explained that because Monday morning quarterbacks would have had more time to make judgments about what the most appropriate course of action would have been during a citizen encounter, their evaluations would be too harsh or unfair. Fear of scrutiny from Monday morning quarterbacks led to some officers becoming more legalistic and/or second-guessing themselves on the street.

According to departmental policy at Sunnyvale, officers were allowed to use their discretion when they were dealing with non-serious crimes that would usually result in a citation. The policy according to officers, was stricter when it came to more serious offenses that typically resulted in arrests in that they had to make an arrest if they found probable cause for wrongdoing, but the policy still allowed some discretionary scope for officers¹¹. In other words, as the seriousness of offenses increased, the decision-making scope of the officer necessarily narrowed. My findings suggested that some officers felt their discretion for even minor offenses had narrowed and they reported, becoming more legalistic in the way they made their decisions as a result of wearing BWCs. On the survey, 8 of the 23 officers indicated that they felt uncomfortable cutting breaks while wearing a BWC¹². By “cutting breaks”, I refer to when an officer has probable cause to

¹¹ An example is when two parents committed a relatively serious offense like simple assault, only one of the parents would be arrested while the other would receive a summons but be left with the children if the officers felt that it would not endanger the children. An officer explained to me during a ride-along that the day before he broke up a fight at a kid’s 6th birthday party where several parents got into a brawl. In some cases, both parents of certain children were involved in the brawl and could legally have been arrested. However, the officers had decided that they would only arrest one of the parents and send the kids home with the other parent. They thought that arresting only one parent would be in the best interest of the children.

¹² The survey did not differentiate between “ticket-able” and “arrest-able” offenses, since I was unaware of the policy on discretion when I was creating my instruments. However, all of the officers who indicated on

make an arrest or write a citation but instead decides to let a suspect off with a written or verbal warning, or without any other legal consequence. Additionally, 14 of 23 officers indicated on the survey that they felt as though with BWCs they had to follow the letter of the law when on the street.

When officers were probed further during interviews about how BWCs had made them more legalistic, they explained that it was to hold up against, or avoid scrutiny. Those officers felt compelled to be more legalistic when they wrote tickets (e.g. traffic tickets) instead of giving written warnings or just letting someone off with a “pep-talk.” They were unsure how potential reviewers of the footage would interpret their decision-making.

A patrol officer explained his concerns:

“You know, I didn’t know what they were going to hem us up on and what they were going to look at. I mean I do my job well, I take pride in my job, but we deal with all kinds of situations all the time that require us to use discretion and step outside of what policies say we have to do. Like if I were to write citations for everything, and if every officer were to do that, then every single court system in the country would be [back-logged]. So I was afraid that I would get hemmed up for, you know, cursing a little here and there or letting someone go on a break. Let me give you an example: I never bust people with [marijuana], you know? If it is under a half ounce. I don’t even take it; I don’t even write a ticket. A lot of my fellow officers would not do that, but I don’t think [marijuana] is going to kill anyone, I think it should be legalized and taxed, and the tax money should be used to pay police officers more. You know? So now I get the [BWC] and then what? Now I have to write tickets for simple possession of marijuana? I was afraid that the [BWCs] would take that discretion away, and I didn’t know how things were going to work.”

Another patrol officer explained:

the survey that they were uncomfortable cutting breaks referred to “ticket-able” offenses during interviews when they were asked about their discretion.

Patrol Officer: "Well we talked about this before, but I feel like I don't write as many warnings anymore. I think that the cameras have affected how many breaks I give people. I feel like I have to be more consistent and so I'm afraid to give a warning because I don't want to get chewed out."

Researcher: "Have you ever been chewed out for this reason?"

Patrol Officer: "No, but it is a 'matter of time' type of thing. You hear of other people who got questioned as to why they gave a particular person a warning and not another person. Yea, so I guess in that regard the cameras have changed my discretion. After I have pulled someone over."

By writing citations, officers said it was less likely they would be questioned about whether they were targeting certain individuals or favoring others. Most patrol officers at Sunnyvale explained that they had been impartial in the way they applied their discretion before the adoption of BWCs. However, one officer admitted that he could be more lenient to attractive women who he had pulled over for speeding. With BWCs, he was trying to no longer let this factor affect how he made decisions, as he did not want it to be identified in the BWC footage.

Much has been written about the discretionary scope that officers have with offenses such as traffic tickets (Schafer and Mastrofski, 2005). Police decision making is probably at a lower level of visibility when it comes to traffic tickets compared to more serious ones. With minor offenses, it seldom occurs that a supervisor or other patrol officers are present to monitor the choices made about the course of action by the patrol officer (Brown, 1981; Mastrofski et al., 1994; Schafer and Mastrofski, 2005). BWCs shed more light on behavior that had historically gone under the radar at Sunnyvale, being more legalistic in their decision making left less room for superior officers to find fault in their work if their BWC footage did come under review.

In addition to being more legalistic, some officers explained that they had found themselves sometimes second-guessing their decisions because they did not know how Monday morning quarterbacks would respond to their behavior if their footage would come under review. Out of the 23 patrol officers, 11 claimed that they were more likely to second-guess themselves due to the possibility of their footage coming under review. This was particularly true for cases where there was potential for officers to use force. A patrol officer shared his perspective:

“No, I mean certainly one of the drawbacks is if you do screw up, [the BWC] is going to catch it you know? It’s kind of simple. I mean you know we are all human beings, we are going to screw up here and there, but you know there is no way to hide that now. You know, you have to be a lot more mindful about how you interact with people and things like that. Because...since it is on tape, it can come back to bite you. And of course, we are so much more often to be scrutinized now, you know especially recently. You know? Like I said, you have to be so mindful and if you screw up, it’s going to be ‘here comes Monday morning quarterback!’”

Another officer explained that there had been times where a citizen said something towards the beginning of an interaction but then would deny saying that later on. In that case, the officer felt uncomfortable insisting that the citizen was contradicting themselves and had to ask another officer to stay with the citizen while he quickly reviewed the earlier footage on his Axon APP. In that particular case, the officer was correct. However, fear of scrutiny from the MMQB’s caused him to second-guess himself and review the footage on his smartphone. This was directly a result of wearing a BWCs

Despite some officers reporting that they had changed the way they used their discretion, it did not seem as if *all* officers felt that their discretion had been significantly affected by BWCs at Sunnyvale. Some officers claimed that they noticed no difference in

the way that they exercised their discretion. Yet it certainly seemed as if BWCs had shed some light on what traditionally had been known as low-visibility decisions (see Goldstein, 1960). Out of the officers, who mentioned that they had changed the way that they exercised discretion with BWCs, noted that they were afraid of having their BWC footage reviewed by superior officers because they feared harsh or unfair scrutiny from Monday morning quarterbacks. It seemed as if officers became more legalistic in attempts to avoid or have their decisions hold up against scrutiny. Additionally, some officers who feared the unfair judgment of their use of discretion found themselves second-guessing themselves while they were on the street. Therefore, I assess that BWCs had only had a modest impact on how Sunnyvale officers' use of discretion changed, a more significant change would have been if this was consistent with all officers.

Although I did not have access to arrest and ticket information at Sunnyvale to measure if arrest and citation activity had actually increased, about 1/3 of officers reported they wrote more citations since the implementation of BWCs. We must also be careful, though, not to assume that because 1/3 of officers had changed their discretionary behavior that it would translate into a 1/3 increase in arrest and citation activity. However, we can assume that at Sunnyvale at least there must have been some increase in arrest and citation activity since some officers clearly indicated that they attempted to avoid inquiry into their behavior by writing tickets and making arrests as to not have the least amount of arrests.

Even though it might not seem like much, 1/3 of patrol officers mentioned that they used less discretion, which was still rather significant and could have grave

consequences for the rest of the criminal justice system. If this were to be consistent across jurisdictions, it could potentially cause a significant increase in court cases that could also lead to an increase in people entering corrections. One of the implications of my findings is that despite having only a modest impact on officer use of discretion, even a small fraction of patrol officers who adhere strictly to department policies and laws could potentially result in severe financial and logistical burdens for the rest of the criminal justice system. Therefore, it is important that future research considers how BWCs affect officer discretion not just regarding arrests, but also on traffic citations and summonses and how this in turn affects the entire criminal justice system.

Training

Body-worn camera footage holds a lot of promise to be a fruitful training tool as scholars such as White (2014) and Willis and Mastrofski (2016) have pointed out. One of the major advantages of video evidence is that it can capture more “objective depictions” of police actions during actual police-citizen interactions. It allows training officials to see exactly what occurred during citizen encounters and removes some (not all) bias that could have resulted from an officer’s interpretation of events during an incident through a standard police report (Harris, 2010). BWC’s ability to capture “real-life” situations in all of their contextual richness, can serve as a training tool that can speak to the complexities of police work that are more relevant than “made-up” training scenarios. Bayley and Bittner (1984) explain that officers claim that each situation they encounter in the real world is unique, and the contextual details about different people and places hold a lot of stake in how they make their decisions. Consequently, being able to capture all the

richness of police-citizen encounters in a “real-life” recording has the potential to alter the nature of police training significantly. For example, the ability to playback and stop footage provides an opportunity for training officials to thoroughly and carefully evaluate all aspects of an officer’s performance on numerous dimensions (safety, procedural justice, communication, maintaining control, etc.). This footage could even be used by a department to establish general standards for evaluating the quality of an officer’s performance in a wide variety of encounters (e.g., traffic stops or domestic disputes). Willis and Mastrofski (2016) explain: “Since officers care about the specific context of an individual incident and the importance of ‘being there’ to make judgments, body-worn camera video footage offers an opportunity for departments to address this cultural feature of the police craft directly” (p. 14). In other words, BWCs provide a valuable opportunity for police training practices to address some of the contextual aspects of day-to-day police work unlike many other forms of police technology.

With that being said, the use of BWCs could potentially change police department training significantly. Footage that depicts day-to-day, but yet challenging situations could be systematically and regularly reviewed by training officials or “master craftsmen” (see Willis, 2013) to come up with general guidelines that could be worked into the departmental policy (Willis and Mastrofski, 2016). Moreover, actual footage of real-life events could be used in in-service training to replace the more traditional scenario training, where training officers artificially construct a scenario which officers in training must face. Other officers might view real-life footage of peers, and they could be asked how they would have made a judgment if they were present. BWCs could also be

used to record officers while they undergo training and the footage could be utilized during the debriefing, where a training officer provides detailed feedback to the officers accompanied by visual data. Another way that BWCs footage could significantly change training practices is that designated training officers could conduct content analyses of individual officers' footage to identify opportunities for improvement that are consistent in an officer's craft among a broader group of situations (e.g. communication skills).

However, current research does not go far into the details about how BWCs have been used for training purposes (White, 2014). Knowing that Sunnyvale had initially adopted BWCs with an eye on training new recruits afforded me an opportunity to learn about how BWCs were being integrated into this aspect of police practice. To what extent had the implementation of BWCs transformed training? Was it significantly different since the implementation of BWCs?

The policy at Sunnyvale required that BWCs be incorporated into training practices in two ways: training officers had to review BWC footage of officers and training officers had to document police training. The following is the entire section of the policy devoted to training and review:

G. TRAINING AND REVIEW

1. Designated management and retention Officers will conduct weekly reviews of videos for proper use and training issues.
2. Designated management and retention Officers will report any Officer safety issues to a Sergeant or Commander for remedial training.
3. WVR's may be used during in-service training for evaluations and documentation by Instructors.

This translated into three changes in training practices that I discuss in detail. First, training officers occasionally used BWC footage as source material for traditional in-service training scenarios. Second, sometimes training officers used BWC footage to provide constructive criticism to officers on how they did in the field (also known as “coaching”). Lastly, BWCs were consistently used to document officers’ performance during in-service, field, or remedial training. Recorded training footage was used in two ways: as evidence against an officer should the command staff decide an under-performing officer should be terminated, and to resolve conflicts between training personnel’s and trainees’ recollections and/or assessments of trainees’ performance. Since documenting officer’s performance was the only change that occurred on a consistent and regular basis, I assess that BWCs have only modestly changed training practices at Sunnyvale. BWCs were used more as a tool to hold officers accountable for their performance during training than a mechanism for careful assessment and feedback to improve their craft.

Using BWC Footage as Source Material of In-Service Training Scenarios

One way in which training practices changed with the adoption of BWCs was that BWC footage was occasionally used as source material for in-service training scenarios. Notably, however, BWC footage of individual Sunnyvale officers was rarely shown to other officers as a training tool to protect them from the scrutiny of their peers. Instead, situations caught on camera were sometimes used to inspire traditional in-service training scenarios. In-service training is a common practice among police agencies in the United States and involves retraining on skills that officers can lose without practice, also known as “perishable skills” (Walker and Katz, 2013). In-service training usually comprises an in-class component in addition to a practical component in the form of scenarios (Walker and Katz, 2013). This was also the case at Sunnyvale in that in-service training comprised an in-class portion that usually lasted for about an hour and a practical, scenario-based component where officers were faced with a mock situation that was acted out by training officers where they had to respond using their knowledge of departmental policies and protocols. This offered them the opportunity to apply and sharpen those skills that they did not get a chance to exercise much on a day-to-day basis (e.g. controlling a disgruntled and potentially violent citizen). The in-class component involved a PowerPoint presentation led by the training administrators that sometimes included a video from YouTube. This was followed by a scenario-based component that was related to the topic that was covered during the in-class presentation. Topics could include officer safety, police-community relations, domestic violence, mass shootings, or use-of-force, to name a few. Scenarios were done off-site, at a location that belonged to the city.

Training officers would sometimes use BWC footage as source material for scenarios when they found that their existing materials (that consisted of videos and news reports of events that happened at different police organizations across the US) did not adequately cover a unique situation that they felt needed additional attention. Officers at Sunnyvale seemed to believe that basing in-service training scenarios on BWC footage made it very relevant to the situations that they would likely be able to encounter on the street, however, but they did not do this on any regular basis. Training officers like the one in the quote below mentioned that they still used other resources far more often than BWC footage for the inspiration behind scenarios.

“We don't show it necessarily to all the squads, you know because we don't necessarily want to embarrass certain officers or certain squads, but we've used [BWC footage] by watching footage or watching how a squad or a group of officers may have handled an incident. We have then made scenarios in training basically exactly like that incident, so we can show: ‘hey, this is exactly how you should do this or that’. We've actually only done that a few times with different incidents. You know nothing bad really happened but officers put themselves in a position where it could have been way worse. It could have been very unsafe you know? During our officer survival or officer safety training, we've made scenarios very similar to that incident to show this is how you should do this.” [Training Administrator]

As the officer above explained, although they sometimes used BWC footage as source material for in-service training scenarios, they tried to avoid showing the actual footage to the officers so as to not embarrass the subjects of the video.

Police officers tend to hold a sentiment that one has to be present in a situation to be able to judge an officer's behavior (Bayley and Bittner, 1984; Willis and Mastrofski, 2016). This sentiment was also widely held among Sunnyvale officers. With BWCs and BWC footage, training officers had an opportunity to make judgments based on detailed

footage that was real and relevant to their jurisdiction, but the fear of embarrassing an officer prevented them from using BWC footage in this way. It was especially interesting since the BWC policy required training officers to look for training material when they handled footage, but it seemed that the training officers only used the footage as source material when their usual training materials did not address a situation that they thought was unique and/or relevant to Sunnyvale officers.

Providing Constructive Criticism to Officers

Sunnyvale officers also indicated during interviews that BWC footage was sometimes used to offer constructive criticism to officers. The BWC policy required training administrators to conduct weekly reviews of BWC footage and report training or safety issues to command staff or supervisors. Although training administrators mentioned that they did sometimes report issues to that they deemed “serious”¹³ to superior officers, most problems were not serious and they tended to handle these informally with the officer. A training officer explained:

“Like if it was a serious offense and there was like a serious officer safety concern and I thought ‘hey, this guy needs serious retraining in this area’, then that I would recommend him for remedial training where they would say ‘hey, we have this video’, and then it’s documented and official remedial training. But I’m not going to be doing that with something minor. I would basically be doing like the ‘hey, this was a little unsafe, maybe you want to try it this way next time’. So that would just basically be like ‘A heads up’. Like ‘hey, let’s be a little safer in the future’, kind of thing.”

¹³ Serious offenses could vary but typically included gross violations of protocols that put an officer, citizen, or other members of the public in danger. An example could include improper or inappropriate use of OC spray.

When training officers decided to handle things informally, they would review the footage with the officer in a private, one-on-one setting. This idea is similar to the concept of “coaching” which Walker and Katz (2013) discuss where supervisors will sometimes correct performance issues with their subordinates informally on a one-on-one basis. A training officer explained:

“The [BWC] footage is used for training like, for instance, now we have the ability to go alright, let’s look up what happened on a scene on the Taser camera footage, get with the officer, and see exactly what happened on the scene. And say ‘hey, yeah, this is an issue’. You bring them into an office. You’re not publicly scolding them for these things. You’re saying ‘hey, come on into the office, let’s review this video with you and see what’s going on with it.’ And a lot of times afterward they’ll look at it and be like ‘yeah, that absolutely was unsafe, I should have done it this way’. And then that’s just a teaching moment for your them.”

Although training officers sometimes engaged in coaching with officers, this was not something that they did on any consistent or regular basis nor was it a practice that had been implemented or mandated on any official capacity. It seemed as if this practice was prompted by some extent for training officers to avoid sending their fellow officers to remedial training for policy violations that they deemed “non-serious”.

Documenting In-Service, Field, and Remedial Training

The most consistent change in training practices at Sunnyvale was not the systematic evaluation of patrol officer performance but to use BWCs to merely document or record police training. Although the BWC policy only recommended that training officers record in-service training, BWCs were consistently used at Sunnyvale to record

all three types of training: in-service training, field training¹⁴, and remedial training¹⁵.

Recording training seemed to serve two purposes: (1) to settle disputes between training officers' and trainees' assessments of trainees' performance during the feedback portion of training (whether in-service, field, or remedial); and (2) to document training for evidence of an officer's performance in case command staff intend to terminate the officer.

While officers sometimes provided constructive criticism to officers based on their performance in the field (like I discussed in the sub-section above), training officers had started using BWC footage when they provided feedback to officers after training sessions (whether it was in-service, field training, or remedial training). Providing feedback to officers after training was something that had been a standard practice at Sunnyvale long before the implementation of BWCs. During field training, FTOs would pull a new officer aside after a citizen encounter and give them ask them questions about what they noticed and what they thought, at different points of the encounter. The FTO would then follow-up by providing feedback to the officer about what they should watch out for in the future. At the end of each day, FTOs also have to fill out what they call a "daily observation report" which details the FTOs observations of the trainees

¹⁴ Field training occurs when a new officer receives training from a field training officer (FTO) (Walker and Katz, 2013). At Sunnyvale, new officers were required to do a certain prescribed amount of field training once they signed-on to Sunnyvale PD. Typically, they had an FTO do ride-alongs with them for about 12 weeks. The FTO was equipped with a BWC during ride-alongs in order to record the trainee's behavior and performance as he or she handled certain situations in the real world.

¹⁵ Remedial training occurred at Sunnyvale when an officer had been found to have committed some sort of policy or safety violation that had be rectified. When an officer underwent remedial training, it was done on one-on-one basis for a certain amount of prescribed hours and the training officer was equipped with a BWC to record the officer's performance.

performance. During in-service training, training officers would ask questions and provide feedback after the officer had completed a scenario. The same happened after a remedial training session. During all three types of training, feedback was given on a one-on-one basis or among a group of several training officers¹⁶.

Since BWCs were adopted at Sunnyvale, training officers had been using BWC footage during the time they provided feedback to trainees and although they did very seldom use the footage to coach trainees, they mostly referenced BWC footage to settle disputes between trainers and trainees when their recollections of the officer's performance were not congruent. A FTO, who is also a patrol officer explained:

“Let’s say officer’s safety is a big deal, especially in this line of work. That’s been used, especially, for the newer officers in field training, and so forth, where the newer officers they think they’re doing the correct thing, but they’re so overwhelmed by so much that they don’t notice what they’re doing. Most of the field training officers, they will replay footage back, ‘Look, you messed up in here. I’m just showing you. Fix it, so forth.’ It also helps them in-service because the [training administrators], the ones that do like officer survival training and OC training and stuff like that, they’ll review footage and they’ll say, ‘Man, this is a perfect example of perfect use-of-force,’ or, ‘This was a horrible use-of-force right here. You could have this done X, Y, and Z,’ or, ‘You did perfect on this scenario’, or, ‘You did X, Y, and Z.’”

Another training officer explained:

Okay. I don’t know if anybody else has talked to you about this, but our FTO program; everybody who’s a certified FTO gets a new trainee, the new recruit, the cadet, whatever you want to call it. That person does their five weeks at one person, five weeks with another person and then two weeks on their shadow. But anybody who’s an FTO has to wear a [BWC], so at the end of the day, at the end of every shift when they’re doing their daily observation report, they can go back and look at this or later on down the road when you write it up and the new officer’s like, ‘That’s not what happened, that’s not what I did.’ You can go straight back here be like, ‘Yes it is, I wrote it, I watched it, this is what

¹⁶ Training officers mentioned that they did not prefer to give feedback to officers in front of other trainees, but were comfortable doing it in the presence of other training officers.

happened.’ Without an argument, ‘No, we’re going to watch this.’ It’s a complete, huge training feature that these things offer. ‘This is what you’re doing on-scene. You need to change what you’re doing this officer safety or whatever stuff and things like that.’”

In the second quote, the training officer explained the importance of having the footage to resolve conflicts between his and his trainee’s assessments of the trainee’s performance.

When I observed an in-service training session, the training administrators never consulted the footage during the debriefing or “feedback-stage” at the end of the scenario. They primarily asked the officer to say what they thought they could have improved and how they might have changed their tactics in the future. The training officers would then provide their feedback to the officers. During my observation of in-service training, none of the officers disputed their performance with the training administrators and thus I never witnessed the training administrators referencing the footage.

What I gathered from my observations and interviews was that training officers used BWC footage mainly to back-up what they observed during training sessions (in-service, field, and/or remedial) and generally only referenced the footage when there was a discrepancy between their and a trainee’s recollections of the officer’s performance. Thus training officers were still relying on their own observations and were not systematically reviewing the recordings to evaluate officer’s performance.

Based on the majority of officers’ responses during interviews, it seemed as if the primary reason for using BWCs at Sunnyvale within the context of training was to document officers’ performance during training to serve as evidence of their performance. Training administrators, who had admin access on Evidence.com used a “training” file that was only accessible to them and command staff to store all training

video files. All videos within the training file were then linked to individual officers. This was done as a means to keep track of and document individual officer performance during training. This footage was reviewed by training officers and the command staff and if police officers needed to be put through remedial training or additional remedial training, due to poor performance during training exercises, recorded footage was used as a means to justify it. When an officer continued to struggle with something, BWC footage had been used as evidence to terminate them. A training officer explained:

“If an officer’s not cutting it, you write up a seven-page thing, ‘Officer didn’t do this, officer did this.’ You have this seven pages of that but then the people upstairs they fear lawsuits, they fear people making complaints, they fear all that stuff; which it is going to happen. But when you say, ‘Alright, all this I’m writing about this guy, it’s going to be, he said, she said.’ But when you wear that camera and when you say, ‘Hey this officer isn’t cutting it. This is what we want to do. We want to have him resign or terminate him. This is our evidence. This is on camera. This dude just not cutting it. He’s going to get somebody hurt, he’s going to get himself hurt. He’s going to have an accident. This is why on video we don’t think he should still be here as police officer.’ It’s helped us in that way. I know it is what it is. One officer, we videotaped all his scenarios and he wasn’t cutting it and we’re like, ‘Alright, man, you need to make a decision. Do you really want to do this or not?’ We wrote up our thing. At the bottom, we write in the report that we’re going to give to the states attorney. We wrote WDR to say, ‘This is recorded.’ Everything was recorded with the body-worn camera. They see that and they’re like, ‘Alright, I’m not going to be able to sit there and say he said, she said. This is all on video, so maybe I should just do what I need to do.’ That’s another thing. That is one of the big advantages of having it, because there’s no more of the ‘he said, she said’ once it’s on video, so it’s always like, ‘No, this is what happened.’”

Whether the department used BWC footage as evidence against an officer or whether training officers referenced the footage when providing feedback to their trainees, the most consistent use of BWC footage within the context of training at Sunnyvale was to document all training that officer received. This spanned across the field training of new recruits, in-service training, and remedial training. Other uses of

BWC footage within the context of training comprised coaching by providing constructive criticism to officers and using BWC footage as source material for in-service training. These uses of BWCs and BWC footage, as I have noted, were seldom occurrences compared to the consistency of documenting training.

Overall, training officers relied on their usual training materials and training strategies; I ultimately found that changes to actual training practices as a result of BWCs in a way to improve the actual quality of patrol officer performance were modest. At the beginning of this section, I noted how BWCs could be used in the context of training to be a source of significant change. BWC footage could be systematically reviewed by more experienced officers to help create guidelines to be worked into the departmental policy (Willis and Mastrofski, 2016). Footage could be used to create more relevant in-service training scenarios that speak more to the contextual complexities of day-to-day police work. Footage could be analyzed by officers in a way to evaluate officer performance in a way that is rooted in visual data. If departments focus the use of BWCs and BWC footage on improving officer performance, BWCs could be an opportunity for significantly changing existing training practices. However, I did not see or hear any of these changes during my time Sunnyvale. Although BWCs did have a modest effect on attempts to improve officer performance where training officers sometimes used BWC footage as source material for in-service training scenarios or referred to footage when coaching officers, these were seldom occurrences. Instead, a more consistent use of BWCs and BWC footage was to document different types of training that allowed

training officers to backup their feedback to trainees and provided evidence against an officer when he or she were terminated.

Police-Citizen Interactions

An important aspect of this study was to learn about how body-worn cameras affected citizen interactions at Sunnyvale. How BWCs impact citizen interactions have not received a lot of scholarly attention as White (2014) explained. What literature on BWCs and police-citizen interactions tells us is that BWCs can affect both the behavior of the police and that of the citizen (White, 2014). Measures of how BWCs have impacted the way the police behaved during interactions have been conducted in two ways: examining officer use-of-force and studying reductions in citizen complaints. Some studies have found that police officers who wore BWCs were less likely to use force against or perform stop-and-frisks citizens than officers who were not wearing them (Farrar, 2013; Ready and Young, 2015). However, White (2014) pointed out that these studies do not tell us whether these reductions were due to changes in officer behavior or changes to citizen behavior. Similarly, regarding studies that found reductions in citizen complaints related to the use of BWCs (Goodall, 2007; ODS Consulting, 2011; Farrar, 2013; MPD, 2013; White, 2013; Katz et al., 2014), Michael White (2014) explained that the “behavior dynamics that caused the decline in complaints remain unknown” (p. 21).

At the same time, some research has found that BWCs have had a civilizing effect on citizen behavior (Goodall, 2007; ODS Consulting, 2011; MPD, 2013; White, 2013; Farrar, 2013). These studies measured citizen behavior examining reported assaults against officers (ODS Consulting, 2011), officer perceptions of citizen behavior

(Goodall, 2007; MPD, 2013; White, 2013), and police use-of-force incidents (Farrar, 2013). These studies found that the presence of cameras caused citizens to become more aware of their own behavior and deterred them from acting belligerently or lashing out violently at officers (civilizing effect). However, White (2014) said that similarly to the findings of police officer behavior, research on citizen behavior also lacks depth in explaining the different dynamics at play when BWCs are introduced to police-citizen interactions.

Although my research did not involve interviewing members of the community in Sunnyvale, I captured information about citizen interactions through my interview, survey, ride-along questions, and observations and tried to learn how BWCs had affected the nature of police encounters with the public. I wanted to gain a deeper understanding of how BWCs altered the way officers interacted with citizens and at the same time learn how BWCs impacted the way citizens behaved towards the officers wearing them. This allowed me to shed some light on the questions that White (2014) posed and provide an initial understanding of how BWCs impacted police-citizen interactions. What I found was that BWCs served as a tool that held both officers and citizens accountable for their actions, which is consistent with existing research and proclamations about BWCs. That is, some officers explained that they exercised verbal caution and that when they wore BWCs, some citizens tended to display a calmer demeanor in the presence of BWCs.

Based on my findings, I assessed the impact of BWCs on police-citizen interactions as moderate. Regarding police behavior, only about half of patrol officers reported they had changed how they behaved toward citizens due to BWCs, and these

changes were only related to how they communicated with citizens, by exercising what is known as *verbal caution* (see Coldren, 2015). Moreover, patrol officers who mentioned that they did change their behavior did not all modify the way they communicated in the same way. In terms of how citizens behaved, all officers mentioned that BWCs impacted the way citizens behaved during police-citizen interactions in that they had a “calming effect” on citizen behavior that was both civilizing and/or reassuring. However, officers were clear that BWCs did not have this impact on all citizens equally. Citizens’ behavior would not change when they were too intoxicated, already belligerent, suffered from mental illness, were not aware that they were being recorded, or for some reason became offended at the behavior of the officer. It seemed therefore that BWCs had changed some aspects of police-citizen interactions (namely communication and a contribution to a calming effect), but these changes were not consistent across all officers and citizens and were relatively modest.

Police Behavior

Regarding police behavior, of the 23 patrol officers who participated in the study, 13 of them mentioned during interviews that their behavior had changed in how they communicated with the public. These officers felt like they were at all times speaking to, or in front of an “audience” and therefore exercised what has been referred to as “verbal caution” (see Coldren, 2015). They explained that if the footage would be watched by an audience whether it was individuals on YouTube, their superiors, or people in a courtroom, they wanted to make sure that their words and actions could withstand scrutiny.

“...so now I get into the habit of saying, ‘sir I’m giving you a lawful order.’ That informs him I’m giving him a lawful order and it’s to inform the ‘audience’ who eventually is going to watch this. So sometimes, when I’m speaking to criminals, I’m not speaking to them, I’m speaking to the ‘audience’ or the court system or the jury now.” [patrol officer]

This officer’s quote gives a general sense that officers felt like they were acting in front of or talking to an audience while wearing BWCs during police-citizen interactions.

However, when officers were asked to expand on what they meant by “acting in front of an audience”, they mentioned four types of verbal caution: using less or no profanity, being careful of the content that they were communicating with citizens, using their knowledge of case law to justify their actions, and being aware of their tone of voice.

The first type of verbal caution that officers exercised was reducing the amount of curse words they used. Eight of the 23 officers mentioned during interviews that they had become more mindful of not using profanity during citizen interactions. This patrol officer explained:

“This was a pretty straightforward situation. But when you know, you’re having a bad day, or you are in an intense situation you know? I would normally maybe let a curse word fly. And we are not allowed to curse at citizens, but you know, we all do that from time to time. Now, I tend to watch myself a little more.”

According to departmental policy, officers were not allowed to use curse words while interacting with citizens. In the cases where citizens decided to file a complaint against officers for cursing, officers would be held accountable for their choice of language and receive disciplinary action. During interviews, some officers mentioned that in certain situations when citizens were especially belligerent, it was harder to control their cursing than in others.

Secondly, six patrol officers told during interviews that they actively concentrated on not saying something that could be misunderstood by a citizen. In other words, they were concerned about the content they communicated to the citizen to ensure that they did not convey inaccurate content that could cause trouble for them whether in court or within the department.

“I mean you definitely hesitate sometimes. You’re like ‘you know maybe I should or shouldn’t say something’ you know? You kind of got to watch yourself sometimes because you know that you are being recorded. And especially when we make arrests; I mean anytime we do use-of-force, the video is saved indefinitely. So, that’s always kind of in the back of my head you know? ‘This video is going to be saved indefinitely.’” [patrol officer]

Since footage could be stored and played in court or in front of a superior officer, patrol officers indicated that they tried to pick their words carefully when they spoke with citizens so as to not cause any confusion or to say something inaccurate.

A third way in which BWCs have had a modest impact on how officers interacted with citizens was that some found themselves using case law to diffuse some tense situations with citizens. Four officers said that they studied case law to give better explanations for what they were doing or when asking citizens to do things. A supervisor explained a difference he had seen in his subordinate officers’ behavior:

“But I think it also changes the officer’s demeanor sometimes when he may be tempted to let his feelings get the best of him. He knows he’s being recorded, so he does his best to maybe diffuse the situation verbally instead of just, you know, ‘okay, I gave you one warning, you’re under arrest.’ You know? ‘Well, hey, how can I explain this to you where it makes sense?’ You know, there is case law. Take that extra five minutes to explain. ‘I have the right to ask you to exit your vehicle,’ you know? ‘Maryland v Wilson is a court case. Look it up on your phone. Google it right now. I’ll give you five minutes to read it before I pull you out of your car. If you don’t; if you don’t agree with it, fine, we can go to court. This is all being put on record. We can take this video to court. We can argue this in front of a judge if you like.’”

These officers explained that they would attempt to use their knowledge of case law to diffuse intense situations instead of using force when they legally could. They explained that this was a direct result of the BWCs to guard against complaints or questions in court. It seemed that even in situations where officers were legally allowed to use force, they still chose to diffuse intense situations with their knowledge of the law. This is consistent with some BWC research that has probed the relationship between BWCs and officer use-of-force (MPD, 2013; Ariel et al. 2015).

The way that BWCs impacted these officers' behavior was consistent with the theoretical tenets of procedural justice. People tend to distinguish between outcomes and processes (Walker and Katz, 2013). Citizens tend to be satisfied with officers even when outcomes are negative when officers explain their actions to them (Skogan, 2005). Officers at Sunnyvale were using their knowledge of case law to explain why they were allowed to stop citizens or detain them. Officers mentioned that in their opinions, it did help diffuse situations even when they could have used force.

The last form of verbal caution that patrol officers exercised at Sunnyvale was watching their tone of voice. Of the 23 patrol officers, four explained that they were careful of their tone of voice when communicating with citizens. Officers, who would without the presence of BWCs maybe speak with a sterner voice, or would usually raise their voice, would instead pay extra attention to keeping their tone at a friendly or neutral level.

Officers exercised verbal caution in four ways at Sunnyvale: officers were cautious of using swear words, considered the content of what they were trying to convey

to citizens, used case law to explain their actions, and were careful of their tone of voice. However, according to the officers, BWCs did not only have an impact on the behavior of officer but they also expressed that BWCs seemed to affect citizens. Officers suggested that BWCs helped some citizens become more “relaxed” during encounters. All 23 of the patrol officers mentioned that BWCs in their opinion had a “calming” effect on citizens. After further probing, it was revealed that the calming effect is two-pronged in that BWCs can have both a “civilizing” effect and/or “reassuring” effect on citizens.

Citizen Behavior

The *civilizing effect* is something that is not new to BWC literature. As I have outlined at the beginning of this section, it entails that members of the public become aware that footage of their behavior is captured, they tend to become more cooperative (Goodall, 2007; Farrar, 2013). Some citizens who may have been argumentative or aggressive would become a little more orderly once they found that they were being recorded (see Farrar 2013). The *reassuring effect* is something new that I found in my data. According to officers at Sunnyvale, when some citizens questioned the legitimacy of an officer’s behavior and were in fear that the officer might violate their safety or rights, they would become uneasy and sometimes non-compliant. However, when some of those citizens found that officers were wearing BWCs, they tended to feel more reassured that their rights and safety were protected by the transparency that BWCs brought to interactions. Both of these effects are rooted in the perceptions of citizens about the transparent nature of BWCs. The primary distinction between the two effects is

that the civilizing effect involves how citizens predict the implications of their own behavior while the reassuring effect is centered around how citizens might anticipate the consequences of an officer's actions.

Farrar (2013) explained that the civilizing effect is rooted in deterrence. Citizens become more cooperative or less violent when they anticipate that documentation of their objectionable behavior could have deleterious consequences. With the reassuring effect, citizens anticipate that record of unsavory behavior by police officers will result in unfavorable consequences for the officers. A patrol officer explained how both the civilizing and reassuring effects work:

“I mean they don’t want a video going out there that shows them acting like fools. So I think they relax a little more because they know that it is being recorded. At the same time, you get some citizens that mention how cool it is that we are recording, so I guess with some of them it can also relax them a bit because they know that everything will be documented so they have less to worry about, you know? In terms of transparency and me acting according to the law. Especially with today’s climate where everyone thinks we are going to shoot them for no reason. And that is a sad reality we live in today as police officers.”

During interviews, 20 of the 23 patrol officers mentioned that BWCs had a civilizing effect on citizens. The primary reason for this is that officers perceived that citizens did not want to look bad on the footage as the following patrol officer explained:

Patrol Officer: “I think there is a great benefit of these cameras due to the fact that I have noticed that people shift gears as soon as you say ‘you are being recorded.’”

Researcher: “Really, how?”

Patrol Officer: “Yes, it’s because there’s no doubt that if [the citizen] acts like an asshole, it’s going to be recorded. If they push this bullshit complaint, it’s going to come out and probably show them on YouTube. ‘Hey listen, the officer did everything right, you were the asshole.’ So definitely, I think if it doesn’t

wake people up, it makes them more cautious about what they say and how they act.”

Another patrol officer explained:

“Before [BWCs], they’d be, ‘Fuck the police!’ ‘Let’s fight!’ or ‘you ain’t doing shit to me!’ But now, you walk with the cameras, they know that they’re being video and audio recorded. Now, they’re going to stop, think about it, and be more polite to an extent sometimes. Sometimes they just don’t care. But they’ll be more polite and say like ‘Alright. Well, I need to cut this out because if I get arrested, they’re going to use this evidence and it really shows I’m being an asshole.’”

Both of these quotes make it clear that they perceived there was a strong deterrence component to the way officers interpreted this effect. Whether it was because citizens feared embarrassment on social media or being found guilty in court, the BWCs had a deterrent effect on their behavior and caused these citizens to act in a more civilized manner. Farrar (2013) in his report on BWCs in Rialto discussed the concept of public self-awareness. That is, knowing that people are watching your behavior. According to Farrar (2013), public self-awareness leads to more socially desirable behavior. He emphasized that there is a deterrent effect that BWCs add to citizen encounters that can impact both the citizen and officer’s behavior in a way that they act in a more socially desirable fashion.

In addition to the civilizing effect, 13 of the 23 patrol officers mentioned that BWCs also had a reassuring effect on citizens during citizen encounters. That is, BWCs seemed to reassure citizens that their rights were being protected. Similarly, 14 of the 23 officers indicated on the survey that they felt as though BWCs make them more approachable to citizens. The reassuring effect is distinct from the civilizing effect in that the reassuring effect is rooted in how citizens anticipated the consequences of nefarious

police behavior and therefore felt safer since they thought that their rights were protected in the presence of the camera. A patrol officer explained:

I think for the most part citizens are appreciative that we're recording. Because you know, the fact that my standard spiel is 'good afternoon, good evening, good night' or what have you. My name is [D5] with the [Sunnyvale Police Department], just to advise you're being audio and video recorded.' They're like 'oh, okay.' And they see that as basically we're checking on ourselves. We're documenting this. We have nothing to hide. So, for the most part, the citizens love it. You know, but for many of the criminals, you know or those who have negative contacts with the police department they don't care about anything."

Officers reported that BWCs could help calm citizen behavior by either a civilizing or reassuring effect. However, like one of the patrol officers above mentioned, the effect to BWCs on citizen behavior were not uniform. Sometimes, citizens would remain noncompliant because they were either too intoxicated, already belligerent, suffered from mental illness were not aware that they were being recorded, or for some reason had become indignant because of the officer's actions. Officers were clear in their interviews, however, that BWCs affected people differently and that the majority of citizens would not be affected by BWCs. They explained that the majority of citizens usually were already compliant and therefore BWCs had no effect on them. On the other side, some people who were so belligerent, intoxicated, suffered from mental illness, or indignant that BWCs had no civilizing effect on them either.

In sum, consistent with existing literature on BWCs (Goodall, 2007; ODS Consulting, 2011; Farrar, 2013; MPD, 2013; White, 2013; Katz et al., 2014; Owens et al., 2014), BWCs brought a certain level of transparency to police-citizen interactions that changed the way that the police and citizens behaved. Patrol officers exercised verbal

caution during police interactions by using less profanity, considering the veracity of content they communicated, using case law as an alternative to force, and watching their tone of voice. Officers' perceptions of citizen behavior indicated that citizen behavior might have changed in the presence of BWCs in that some citizens likely became more civilized or felt reassured that their rights would be protected. Although officers perceived that some change did occur in this structure, the shift was only modest, since more significant change would seem to require changes in the behavior of all officers and citizens. Approximately half of the officers reported that BWCs had not changed how they behaved toward citizens, and the changes that did occur were limited mainly to the exercise of more verbal caution. The most striking change was in the civilizing effect that BWCs seemed to have on citizens, but this assessment is based largely on my own limited observations and also on officers' perceptions. To what extent there was a real change in citizen behavior, requires more rigorous assessment. Moreover, officers explained that not all citizens' behavior seemed to be impacted in the presence of BWCs. Despite BWCs potentially playing a role in calming some citizens down during interactions, BWCs did not appear to have much effect when citizens were already belligerent, suffered from mental illness, intoxicated, indignant, or compliant.

Supervision

In this section when I discuss "supervision" I refer to supervision in a general sense which involves any officer holding their subordinates or other officers accountable for their conduct and performance. This can include the chief holding his or her command staff accountable, or command staff checking on the behavior of patrol officers

and/or their supervisors. However, when I refer to “first-line supervision” I am only referencing one type of supervision that involves first-line supervisors (typically sergeants) holding patrol officers accountable for their behavior and quality of work, which comprises oversight, discipline, and guidance. Because of the way that the BWC Policy mandated the review of the footage at Sunnyvale, BWCs were relevant within the context of supervision in general (e.g. command staff had the capability to monitor patrol officer behavior) and first-line supervision. Although this section is more focused on BWCs’ impacts on first-line supervision, I found that they also had impacts on supervision general (command staff and training administrators reviewed BWC footage). I will distinguish between the two when necessary. However, before I discuss my findings on this structure, I will quickly describe some important aspects of first-line supervision and how BWCs can be a source of significant change in this structure.

First-line supervisors are a crucial component of police organizations since the way they supervise their subordinates can directly affect the quality of service that is delivered on the street (Walker and Katz, 2013). This type of supervision goes beyond ensuring that officers act according to policy. Instead first-line supervisors must interpret departmental policies and determine how those would translate into practice, monitor and evaluate their subordinates’ behavior, and make judgments as to what the best response would be (Muir, 1977; Van Maanen, 1984; Walker and Katz, 2013). If a subordinate officer had been found to behave in violation of departmental policies, his or her first-line supervisors can take disciplinary action against them. First-line supervisors can learn about an officer’s conduct through direct observation, from other officers present, or

when a citizen complaint is filed. When a citizen or another officer files complaints against their officers, they have to initiate investigations regarding the alleged misconduct before filing a case with internal affairs (Walker and Katz, 2013).

First-line supervisors are also responsible for instructing and guiding officers on how to improve their craft. They have to evaluate their subordinates' performance and identify areas where there is room for improvement and at the same time offer guidance on how their officers can improve their performance (Walker and Katz, 2013).

Additionally, when patrol officers have to deal with serious or complex situations in the field, first-line supervisors often come to a scene to offer guidance and take charge if the need arises. Overall, first-line supervisors are responsible for holding their officers accountable for their performance on the street not just by making sure they follow policy but by mentoring and guiding officers on how to produce higher quality work on the street.

BWCs and BWC footage allow first-line supervisors to be more active and gain a deeper understanding of how their officers are performing on the street and could, in theory, be a significant source of change within this structure. This technology can be helpful regarding oversight, discipline, and offering guidance to officers. Patrol sergeants are rarely on-scene to directly observe their officers, and so BWCs offer an opportunity for supervisors to be “present” at all scenes and situations. Moreover, recorded footage gives them the capability to carefully observe the behavior of their officers by rewinding, pausing, and fast-forwarding BWC footage. Thus, they can be used to assess the quality of their performance (“how well” the patrol officer handled an encounter). By

referencing specific situations that were caught on camera, a supervisor can point out exactly what behaviors or aspects of an officer's performance he or she is referencing before offering advice on how to improve upon that aspect of their craft.

An even more significant change to this aspect of supervision would be if review of BWC footage became a part of the annual evaluation process where first-line supervisors viewed a collection of videos to determine the quality of service their subordinates had produced on the street. The supervisor can use this information to make recommendations of what particular training each officer will need to undergo. Moreover, supervisors could use BWCs to document officers' behavior during citizen encounters to determine if officers were acted in accordance with policy. A major change within the realm of oversight would be if first line supervisors stayed in the station more to oversee their officer's work using the BWC footage instead of joining them on calls. Another significant change could also manifest in how much more first-line supervisors prefer to rely on BWC footage as opposed to the testimony of their corporals about the details of subordinates' performance.

Footage can also be helpful when first-line supervisors have to investigate the behavior of their officers in response to complaints whether lodged by officers or citizens. A significant change in this aspect of supervision would occur if supervisors chose to review BWC footage instead, of or in addition to other sources of information when investigating a complaint. Supervisors could also ask citizens to watch the footage with them and could use that time with the citizen as an opportunity to explain why the officer behaved in the way they did and what the legal justifications could be for the

officer's behavior. Supervisors might even choose to sit down with both the citizen and the officer, give each party an opportunity to explain themselves before reviewing the footage with them and providing his or her insight. This would fall in line with the procedural justice, which implies that when an officer explains the basis of their actions with citizens, they would be more satisfied with the officer (Skogan, 2005). BWC footage offers an opportunity for supervisors, patrol officers, and citizens to sit down, explain, and discuss an officer's decisions during an encounter to provide clarity for all parties involved.

Although BWCs have a lot of potential to be a significant source of change concerning supervision (specifically, first-line supervision), I found that at Sunnyvale, BWCs impacted little change on supervision. As I have pointed out, first-line supervisors did not have "admin" access like the training administrators and command staff. Command staff sometimes reviewed footage proactively, but did so on an infrequent basis and not weekly as the policy mandated. Training administrators followed policy by reviewing footage weekly, however, they were for the most part reluctant to bring minor issues (as they defined them) to the attention of first-line supervisors or command staff and instead handled those situations informally. First-line supervisors reviewed BWC footage when a civilian or another officer brought a complaint to them. While some supervisors invited citizens to watch the footage with them and explained officer behavior to them, other supervisors preferred to review the footage by themselves before they spoke to citizens. Since supervisors, for the most part, used BWC footage reactively on an as-needed basis, while those officers (training administrators and command staff)

who were mandated by departmental policy to review footage proactively, did not always follow the policy as intended, I assess that little change had impacted supervision at Sunnyvale.

Before the discussion continues, it is necessary to review how the BWC policy outlined the review of BWC footage at Sunnyvale. The BWC policy did not require *first-line supervisors* to proactively peruse footage. Instead, the policy described that it was the duty of command staff and training administrators to proactively review footage. The policy regarding BWC review was quite straightforward and brief. It stated that command staff and training administrators had to conduct weekly proactive reviews of footage to spot three things: proper use of BWCs, look for training material, and identify officer safety issues. Below is a clipping from a photocopy of the actual policy.

1. Designated management and retention Officers will conduct weekly reviews of videos for proper use and training issues.
2. Designated management and retention Officers will report any Officer safety issues to a Sergeant or Commander for remedial training.

Although the BWC policy indicated no specific amount of time that officers must spend reviewing footage, the command staff felt as though they (the command staff) did not spend enough time reviewing footage (“maybe an hour a week”). Based on responses during interviews, it seemed as if the training administrators were more successful at keeping with policy while the command staff were not acting in strict accordance with policy when it came to how often they had to engage in proactive review of BWC footage. Table 6 shows how many officers belonging to three groups mentioned that they reviewed footage proactively.

Table 6 Officers Who Proactively Reviewed Footage

<i>Organizational Group</i>	<i>Total in Group</i>	<i>Engaged in Proactive Review</i>
Command Staff	3	1
Training Administrators	5	5
Supervisors	5	2

While all training administrators reviewed footage proactively, only one of the command staff who participated in the study reviewed footage on a proactive basis. When command staff members were asked about why they did not proactively look at the footage, they explained that they were mostly too busy with other tasks related to their positions that in their minds took priority. Additionally, in the quote below, a command staff member explained that he did not like reviewing the footage because he did not want to get officers in trouble for minor violations (like cursing):

“I’ll be honest, I was not a big fan of being video recorded [by in-vehicle cameras] and I knew we would face some challenges with some officers not wanting to be video recorded. I think it is because I got charged a couple times with minor policy infractions when I was using the in-car cameras. One time I had a friend do a ride-along with me and I ended up going on a high-speed chase after [a suspect] with the ride-along in the car with me. We are supposed to drop people off at a safe place before we do something like that. But I got charged because I took him along. I mean I had to tail this guy and at some point when I realized that there were five other cars with me, I decided to pull off. So, anyway, it just kind of stuck with me and I never was a fan of being video recorded.”

While some command staff explained that they either did not have the time to look at footage and were reluctant to look at the footage, training administrators did proactively review footage as often as the as the policy mandated. However, the training administrators did not have intentions of getting their fellow officers in trouble for what they deemed, “minor violations”. Instead, training administrators tried to handle minor

policy violations informally. The BWC policy did indicate that if officers found any safety or training “issues” that they should report that information to first-line supervisors, however, what I found was that most training administrators who found officers engaging in behavior in violation to departmental policy, did not report it to supervisors. Instead, they approached the patrol officers informally and gave them notice of what they saw in the video and discussed their behavior with them. A training administrator explained:

“Sometimes we have seen, from the videos, officers not conducting the traffic stop the way that they’re supposed to be conducting it. Just using a traffic stop for an example: a couple officer safety issues or a couple things [would show], when they’re using the camera. [We] pull them aside. We don’t want to write anybody up, we don’t want to get anybody in trouble, but we want to say ‘hey, we were looking at this, at this video with you offline here. The thing about doing this, you know, it’s a better officer safety thing or it’s a better thing, to keep you out of trouble later on.’”

This is similar to the concept of “coaching”, which Walker and Katz (2013) discussed occurs when supervisors help improve the performance of their subordinates with informal one-on-one communication. Even though Walker and Katz (2013), attribute this to supervisors, training administrators at Sunnyvale, in a way, engaged in informal coaching with individual officers when they found policy violations.

While training administrators did review footage proactively, they tended not to bring issues that they deemed “minor” to the attention of supervisors or command staff as the policy mandated and instead chose to handle those matters impersonally with the officer. This is consistent with existing literature that explains that officers are reluctant to testify or “turn” on one another (Stoddard, 1968; Stojkovic et al., 2012; Walker and Katz, 2013). This means that first-line supervisors did not often receive footage from

training or command staff to address. Although training administrators did still provide some footage to supervisors, they only did so when they found it to be serious in their opinions.

Two first-line supervisors did indicate during interviews that they had proactively reviewed footage before, but that it was not something they did on any regular or frequent basis. The primary reason for voluntarily proactive footage review was to check on the performance of a new recruit. Despite not being mandated by policy to review BWC footage, even if supervisors were willing to review footage proactively, they did not have “admin” access to the footage on Evidence.com. Supervisors were given “admin” access several days before the end of my data collection, however, when I spoke with supervisors about this, they indicated that they still would not want to proactively review footage. They would still rely on other officers to bring the footage to them. Supervisors said that they were reluctant to review footage because they did not want to get their subordinates in trouble for minor violations.

Van Maanen (1984) explained that patrol officers are often distrusting of people that they do not know well and this can be true for supervisors who are still in the process of gaining their officers’ trust. It is important for supervisors to have personal relationships with their subordinates if they want to have real authority over them (Bittner, 1970; Muir, 1977; Van Maanen, 1984). If officers do not believe that a supervisor is worthy of their position, they would likely not grant him or her the authority that they require (Van Maanen, 1984). A reasonable assumption as to why supervisors at

Sunnyvale remained reluctant to proactively review footage was not to compromise the relationships with their subordinates although one of them explicitly mentioned this.

To a great extent, supervisors at Sunnyvale reviewed BWC footage on a reactive basis, that is, they reviewed footage when it was brought to them by someone else. Complaints about officer behavior could come from other officers (patrol officers, training administrators, or command staff) or when citizens had complaints about the conduct of an officer during an encounter. These charges mainly involved officers being rude, officers not fulfilling citizen requests, or officers being unhelpful¹⁷.

Here a member of the command staff explained how the department integrated BWC footage into the complaint process:

“To give you an idea of how this goes. You know, you may come in as a citizen and have a complaint because you think an officer was rude to you. Typically, what happens is that we will call in the supervisor. The supervisor will sit down with the citizen and let them vent. A lot of times, people just want to know if you will address it or if you will look into it. What the supervisor can do, is to choose to look at the video or not. Sometimes what will happen is that you are angry and you feel like the officer was disrespectful and whatever. Once you look at the video, you may say ‘nah I didn’t see it that way, I’m ok’ We are not collecting that data what we probably should do. It is so involved and there is that stage. So complaints drop off there. But then maybe the citizen does not see the video and they still want to file a complaint so they fill out the form and then it goes to IA. IA will pull the video, they may say the officer did not do anything wrong and deem it unfounded and then it drops off there. Or they may call the complainer in and have them look at the video. So there are kind of multi levels there. So at any points in that process, the cameras may have affected the complaint process. It may unfound it, it may sustain it, it may cause the complainant to drop it. So it has absolutely been beneficial there. It has also helped with sustaining violations; you know where an officer lost his cool or whatever. So it is a checks and balances.”

¹⁷ Sometimes more serious complaints came in that involved officer use-of-force, which were generally handled by internal affairs or command staff.

It seemed as if BWC footage was reviewed within the context of a complaint at one or both of two stages: before a claim was put on paper (reviewed by a supervisor), and after it was officially filed (reviewed by an IA detective). Supervisors only interacted with the footage before an actual IA case was filed.

Since at the time of data collection there were no official policies about how supervisors had to review footage within this context, one supervisor said that he sometimes watched the footage with the citizens while the others explained that they preferred to watch footage by themselves while the citizen waited in the lobby. After reviewing the footage (whether by themselves or with the citizen) they determined whether the citizen had a legitimate reason for filing a complaint and would explain the officer's behavior to the citizen. When they found the officer not to have done anything wrong, they explained why the behavior under question was justified or legitimate. They also gave the citizen the option to continue and file a complaint to open an official IA investigation but warned them that they would likely not succeed. When the footage showed that the officer had been in violation of the departmental policies, they opened an IA case against the officer. A supervisor explained:

"I will call the person and say I've reviewed the videotape and, you know, you're saying the officer did this and there's no evidence that he did that. A lot of the times, the person will just withdraw the complaint and say, 'Oh, okay. Maybe I was just in a bad mood or something.' It stops with a little of the petty complaint. Now, there's still going to be people who will resist even if you show them video footage that that's not what happened. That just happens."

It seemed that BWC footage was often used by supervisors to handle complaints before they were officially filed with IA and warranted a look at official Sunnyvale complaint data. Figures 1 and 2 show complaints data related to police-citizen

interactions involving Sunnyvale officers from 2009 through the end of 2015. Figure 1 shows total complaint data while Figure 2

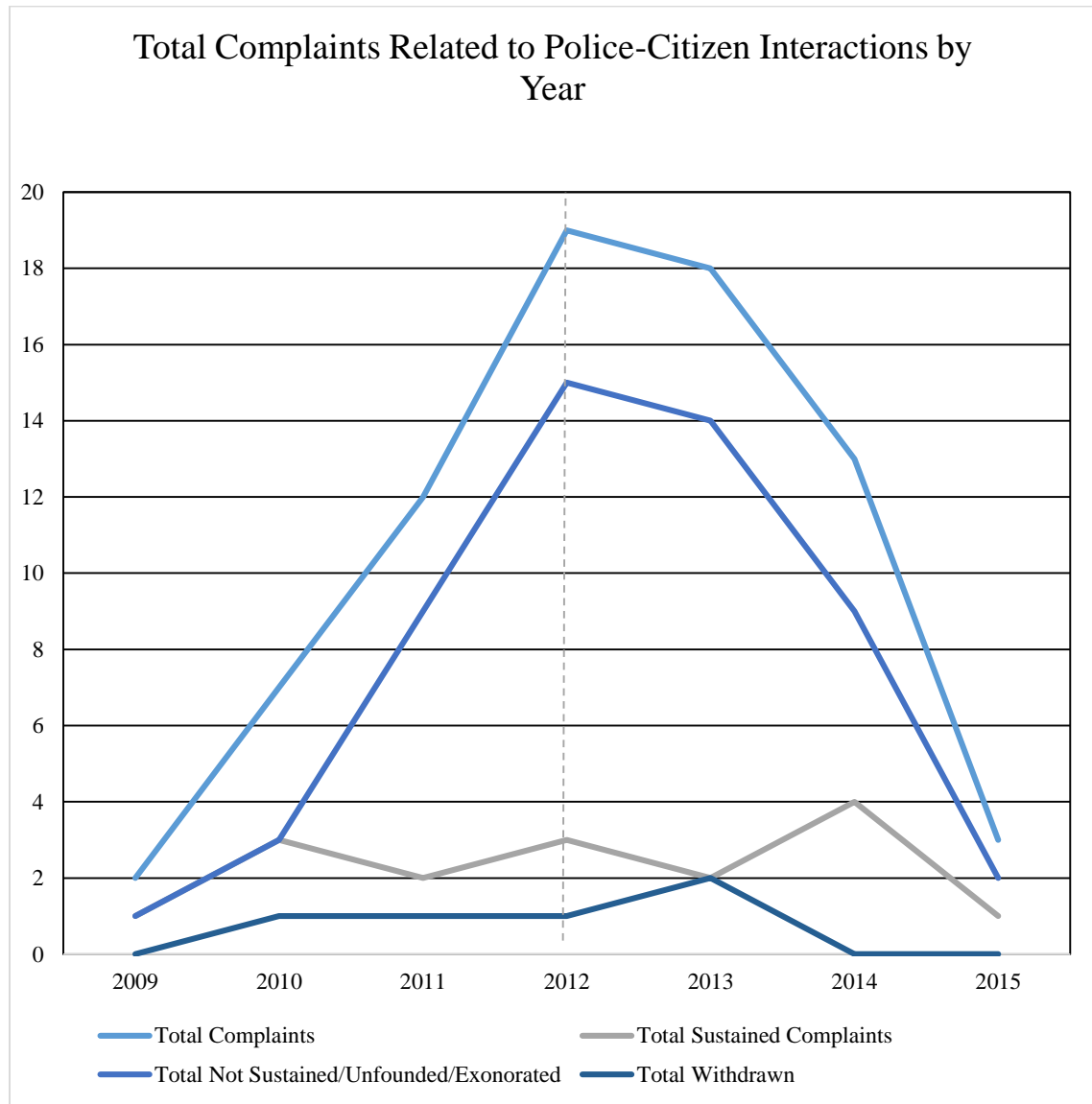


Figure 1 Total Complaints Per Year

shows complaint data broken down by complaint type. The vertical line shows the year when BWCs were implemented. This data consisted of complaints that had already been filed on paper and did not include instances where citizens came in with a verbal complaint. Therefore, it reflects after a citizen had already discussed the situation with a supervisor and decided to move forward with the formal complaint process.

These data were provided by the department and included complaints data for the types of complaints internal affairs or supervisors would review BWC footage for when they investigated the legitimacy of a claim. Therefore, these numbers did not include all complaint cases (that involved intradepartmental complaints between officers or complaints that could not be investigated with BWC footage), but only included three types of cases that were related to the use police-citizen interactions: misconduct, rudeness/discourtesy, and excessive use-of-force (see Figure 2). Officers were charged with misconduct complaints when they allegedly displayed a variety of behavior, but the department loosely defined misconduct as inappropriate or illegal behavior regarding their official duties that were in violation of professional standards and/or jeopardized the reputation of the Sunnyvale Police Department. When officers were charged with rudeness/discourtesy, it typically involved how they communicated with citizens. This could have included but are not limited to using profanity, excessively harsh tone of voice, being dismissive, arrogant, or unresponsive to citizens. Lastly, excessive use-of-

force complaints involved using force against citizens that were in violation of departmental policy and protocols¹⁸.

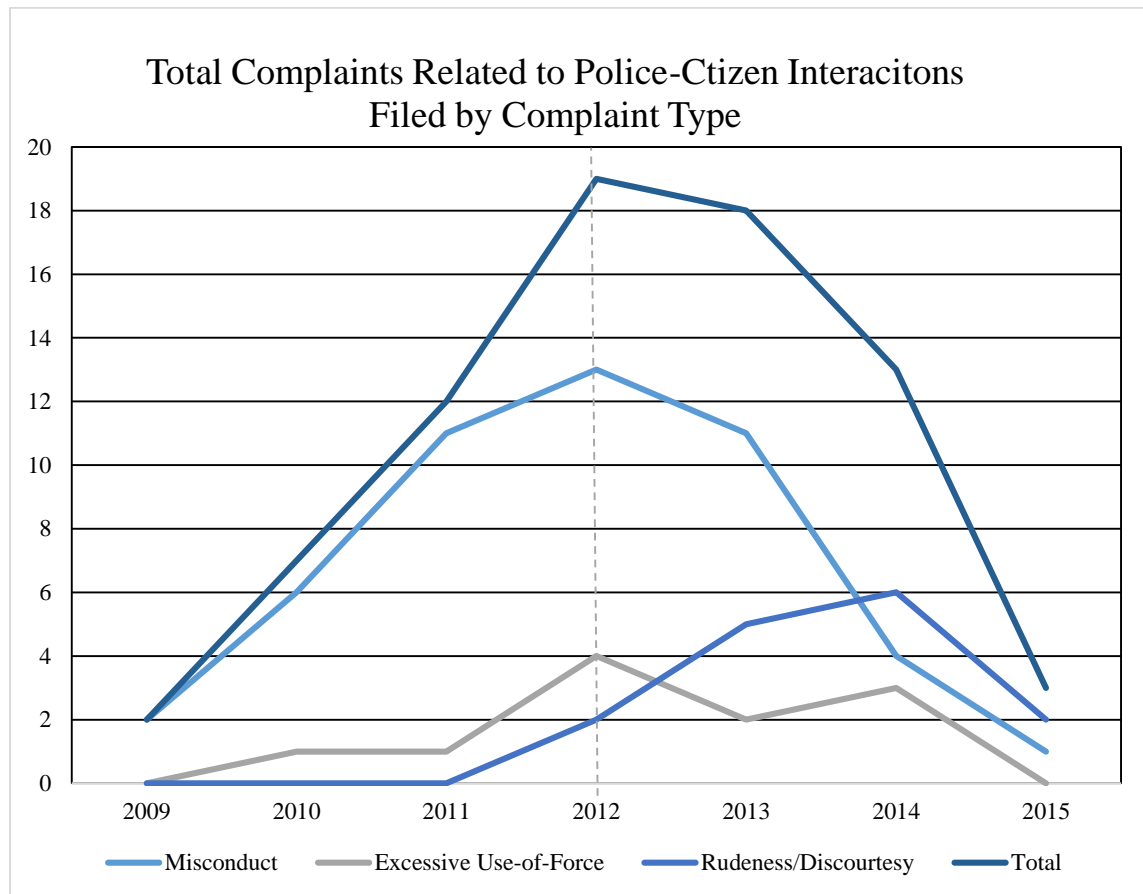


Figure 2 Total Complaint by Complaint Type

Looking at both figures, it is evident that the complaint data consisted of very few cases. However, this was due to Sunnyvale being a small, city-level police agency. It was a smaller police department, with relatively few police officers, in a jurisdiction with a

¹⁸ These definitions were based on how an IA supervisors paraphrased them during correspondence after data collection that occurred during the Spring of 2016.

small population, and therefore, dealt with only a few complaints every year. Despite a few cases, this data did support the perceptions of Sunnyvale officers that BWCs reduced the amount of citizen complaints which is consistent with existing research focused on complaint outcomes (ODS Consulting, 2011; Farrar, 2013; MPD, 2013; Katz et al., 2014). In fact, the slope of complaint decline tended to become steeper with each additional batch of BWCs.

The complaint data showed that complaints had been on a steady rise, up the point where Sunnyvale adopted BWCs in 2012. These complaints had been going down steadily as BWCs continued to be implemented in additional annual batches to the point that there were very few total complaint cases to investigate. There was too little data to determine the impact of footage on whether charges were sustained or not (as Figure 1 shows that only a few cases were sustained each year), but the data did support what officers at Sunnyvale said about the complaint process. That is, BWCs footage made it possible to reduce the amount of complaints that were filed on paper because supervisors could review footage and make a determination of the validity of the complaint before an official complaint was lodged. Additionally, this data agreed with the perception that officers had that more often than not, citizens decided not to follow through with a written complaint after being confronted with the footage. This was explained by the overall, rather sharp decrease in the different types of complaints (Figure 2), total complaints, and total unfounded complaints.

Existing research on BWCs has shown that BWCs have been associated with significant reductions in citizen complaints (Goodall, 2007; ODS Consulting, 2011;

Farrar, 2013; MPD, 2013; Katz et al., 2014) and that seemed to be the case at Sunnyvale. However, it is still unclear what exactly causes these decreases in citizen complaints (White, 2014). At Sunnyvale, it was not possible to draw fair conclusions about how BWCs affected whether official complaints were sustained given the small amount of data available. However, combined with interview data, at Sunnyvale, it seemed that the total number of complaints significantly decreased due to the supervisors' ability to field complaints before they are filed (whether they choose to review footage with or without the citizens).

In sum, BWCs could be a source of significant change concerning how supervisors oversee, discipline, and mentor their subordinates, however, despite seeing a significant decrease in citizen complaints associated with BWCs, very little change within this structure occurred at Sunnyvale. Although some proactive review occurred, it was infrequent and/or training administrators handled certain issues informally with officers. Furthermore, supervisors primarily accessed footage on an as-needed basis when a complaint was brought to them. The fact that first-line supervisors only used BWC footage sparingly is partly explained by their limited access to this footage (i.e., they were not granted "admin" access). However, even when they gave first-line supervisors "admin" access toward the end of my fieldwork, they expressed little interest in proactively reviewing footage since they did not want to get their subordinates in trouble for minor violations of policy. BWC footage was not reviewed in a systematic way with an aim to improve street performance quality. Supervisors did not spend more time at the station reviewing officer footage, they did not use the footage to offer guidance to

officers on how they could improve their quality of performance on the street, nor did the review of footage become a part of yearly evaluations or performance reviews. While most supervisors preferred not to watch BWC footage with complainants (with the exception of one), they reviewed the footage before they explained officers' behavior to citizens, which accounts for the only source of significant change in the way first-line supervision worked at Sunnyvale. On the whole, patrol officers were hardly held accountable for the quality of street-level performance any more than before the implementation of BWCs and therefore, I assess that little changed occurred within this structure.

Conclusion

Overall, the implementation of body-worn cameras at Sunnyvale Police Department had not had a profound change on existing structures and practices. Based on my observations, interviews, and survey responses, I assessed the changes in reporting, discretion, training, and police-citizen interactions to be moderate, and supervision had experienced very little change (see Table 6). In this section, I will summarize my major findings pertaining to the five structures and practices to recapture my assessment of organizational change at Sunnyvale related to BWCs. I conclude the chapter that the most change was related to how officers were held accountable for their behavior, in that accountability, permeated structures and practices including reporting, discretion, training, and police-citizen interactions thus increasing in scope. In other words, officers felt that footage could be used to monitor or review their behavior, they generally felt more accountable for what they said or did within a variety of different aspects of

organizational life. At the same time, BWCs had little impact on how officers were held accountable for their quality of performance and conduct on the street since the department was very careful not to use BWCs as a “gotcha” mechanism, showing no change in the intensity of accountability.

Table 6 Assessment of Changes in Key Structures and Practices

<i>Structure or Practice</i>	<i>Types of Change</i>	<i>Assessment of Change</i>
Reporting	<ul style="list-style-type: none"> Reporting practices were largely unchanged, but officers reported spending more time writing more detailed reports but only for cases likely to go to trial or to demand highly accurate reports (e.g., traffic accidents). 	Modest Change
Discretion	<ul style="list-style-type: none"> About half of officers reported becoming more legalistic and being more likely to issue traffic tickets or to second-guess themselves in the field. About half officers reported no change in how they made decisions. 	Modest Change
Training	<ul style="list-style-type: none"> Although in very few cases, BWCs footage was used as source material for traditional in-service training scenarios or to provide constructive criticism to officers, BWCs were most consistently used to only record in-service, field, and remedial training. 	Modest Change
Police-Citizen Interactions	<ul style="list-style-type: none"> Only half of officers reported that their behavior had changed during police-citizen interactions when wearing BWCs. These officers explained that their behavior mainly changed in the way that they communicated with citizens in that they sometimes used verbal caution. Although many officers explained that BWCs also affected certain citizens' behavior by becoming more compliant during police-citizen interactions, they expressed that this was only true in certain situations. 	Modest Change
Supervision	<ul style="list-style-type: none"> Although BWCs seemed to have a very significant impact on reducing citizen complaints, supervision remained virtually unchanged as first-line supervisors only revised footage on an as-needed basis and in response to complaints. Supervisors did sometimes use the footage to explain officer behavior to citizens but rarely used BWCs as a tool to assess the quality of officer performance. Proactive review of footage was delegated to the command staff and the training administrators and occurred infrequently, was informal, and only focused on safety and training instead of officer performance and conduct. 	Little Change

Table 6 summarizes my assessment of organizational change at Sunnyvale that changes in reporting, discretion, training, and police-citizen encounters were modest while changes in supervision were minimal. Considering the impacts of BWCs on reporting practices at Sunnyvale, BWCs had a modest impact on how officers wrote their reports. While BWC footage did not replace written reports nor did officers use BWC footage in writing every report, officers did spend more time on writing their reports about complex cases (e.g. DUI). They utilized BWC footage to provide more detailed accounts of encounters by adding contextual information, time stamps, and exact quotes. The primary reason for using BWCs in such a way was because officers had bad experiences with the courts and supervisors when their written reports were compared to footage and details did not precisely match. However, some cases like automobile accident reports also demanded high levels of accuracy.

The way officers used their discretion also changed modestly due to the implementation of BWCs. It seemed that BWCs did not impact officer decision-making the same across all patrol officers. Instead only about a half of Sunnyvale patrol officers felt as though BWCs had affected their use of discretion on the street. Those who said their use of discretion changed, explained that what they perceived the threat of Monday-morning quarterbacking caused them to become more legalistic in the way they chose to write citations and make arrests, and BWCs caused some officers to second-guess their decisions in the moment. Changes in officer decision-making were modest because not all officers felt like they were subject to Monday-morning quarterbacking and therefore did not become more legalistic nor second-guessed themselves.

While there were plenty opportunities for BWCs to be a source of significant change to training practices, these only experienced modest change at Sunnyvale. While training administrators had used BWC footage for source material upon which to base in-service training scenarios, this had been done only a handful of times. When BWC footage was used for in-service training scenarios, the staff did not want to play the footage in front of a group of officers as to not humiliate the officers involved in the footage. BWC footage could have been reviewed on a more consistent basis by officers who were known to the department to be highly skilled craftsmen to help create guidelines for best practices related to police work. Similarly, BWC footage could have replaced traditional training materials that were used for in-service training since BWC footage likely contained more “real-life” examples of what officers encountered. However, BWCs were not used in such a capacity at Sunnyvale.

Training officers did sometimes use BWC footage to coach officers when they happened upon footage showing an officer in violation of safety or performance standards. Training administrators handled those issues informally with the officers involved to avoid sending them to more formal remedial training. The third and most consistent use of BWC footage within the context of training was to record all forms of training at Sunnyvale. Whether it was in-service, field, or remedial training, training administrators recorded officers’ performance and saved the footage in a special “training file” on Evidence.com. This served two purposes that included referencing the footage to settle disputes in how an officer’s performance during training was remembered, or to be used as evidence against an officer when he or she was terminated.

Based on what those I interviewed told me, police-citizen interactions were modestly changed in two ways: BWCs impacted the way police officers communicated with citizens and BWCs seemed to have a calming effect on certain citizens who were, or could have become noncompliant. Some officers expressed that they practiced verbal caution when interaction with citizens since they felt like they were behaving in front of an audience. They exercised verbal caution by limiting their use of profanity, being careful of the content they communicated to citizens, using their knowledge of case law instead of force to control citizens, and by being aware of their tone of voice. Similarly, based on my interviews BWCs also seemed to affect how some citizens behaved in two ways: becoming more civil and feeling reassured. Officers reported that some citizens who were agitated or noncompliant, might become more agreeable when they noticed they were being recorded since they feared others might view their behavior disapprovingly. At the same time, the presence of BWCs could cause some citizens to feel more reassured that their rights were being protected and therefore became more relaxed and compliant. However, BWCs did not affect all citizens equally, some citizens who were already belligerent, suffered from certain mental illnesses, were intoxicated, became indignant during the interaction, or were already compliant were rarely impacted by the presence of BWCs. In fact, officers were explained that most of the time BWCs had no effects on citizen behavior. Change within this structure would have been more significant if the presence of BWCs would have changed the behavior of all citizens and all patrol officers.

Lastly, despite BWCs having a rather notable effect on reducing citizen complaints at Sunnyvale, which is consistent with existing literature on these outcomes (Goodall, 2007; ODS Consulting, 2011; Farrar, 2013; MPD, 2013; Katz et al., 2014), supervision experienced minimal change with the implementation of BWCs. Significant change in supervision would have been realized by supervisors spending more time in proactive review of BWC footage as a means to monitor the performance of their officers on the street. Also, supervisors could have used this footage when they offered guidance their subordinates by referencing certain patterns or aspects of the officer or another officer's behavior in the footage. Altogether, BWCs could have been used to significantly change the way that supervisors held their subordinates accountable for their conduct and quality of performance on the street. This was hardly the case at Sunnyvale. While supervisors did not have access to footage (until a week before data collection ended), policy mandated training administrators and command staff review footage proactively; this was done on a very infrequent basis, and response to officer behavior was mostly informal. The only source of significant change within supervision was that supervisors reviewed BWC footage in response to a complaint before explaining an officer's behavior to citizens.

In contrast to the fairly modest changes above, officers consistently reported feeling more accountable for the work that they did across a wide range of tasks or experiences, whether it was writing reports, dealing with citizens, appearing in court, or training. The availability of BWC footage always raises the possibility of having one's work monitored and evaluated, particularly for violations of department policy, serious

misconduct, and even simple mistakes or errors in judgment. Thus, the use of BWC footage in a variety of venues from street-level encounters to training increases the likelihood that one will be found engaging in wrongdoing and thus contributes to a heightened sense of accountability. Video footage provides a level of recording or documentation of the actions of police officers unparalleled in police history.

At the same time, while the scope of accountability had increased due to the ready availability of BWC footage, the intensity with which accountability was experienced depended on changes to how this footage was used. Just because a record of an event is available does not mean that accountability is indeed significantly heightened: this depends on a number of different factors. Are officers frequently exposed to close monitoring by their superiors? Is there an attempt to use this footage to actively seek out officers who are violating department policy or engaging in police misconduct? Is evidence of an officer's behavior used to systematically evaluate that officer regarding the quality of their work and to demand improvements?

The promise of BWCs is that they increase accountability and transparency (Harris, 2010; Haynes and Ericson, 2012; Drainsin, 2011; Johnson, 2014; Pearce, 2014; Sink, 2014), a demand that has emerged in light of high-profile events (e.g. Michael Brown, Freddie Gray, Tamir Rice). In turn, this led to an increase in BWC adoption across the United States and abroad (Jennings et al., 2015; Coudert et al., 2015). Some studies have shown that BWCs have impacted the amount citizen complaints and officer use-of-force incidents (Goodall, 2007; ODS Consulting, 2011; Farrar, 2013; MPD, 2013;

White, 2013; Katz et al., 2014) but these findings do not necessarily imply that police officers are actually being held at a higher level of accountability (White, 2014).

Consistent with the hopes of reformers, my findings suggest that the implementation of BWCs has contributed to patrol officers feeling more accountable for their behavior: 19 of the 23 patrol officers indicated that BWCs made them feel more accountable for their behavior by making it visible to people inside and outside the police department. This allowed accountability to permeate other practices and structures that included reporting, discretion, training, and police-citizen encounters. Thus, the mere availability of video documentation of an officers' heightened their sense of accountability.

However, while the scope of accountability had increased, BWCs were not being used in ways that made officers feel significantly more pressure for their performance. Rather, the department had chosen to use BWCs in ways that avoided constant and close scrutiny of officers' behavior. Take first-line supervision, for example; BWCs present first-line supervisors with a unique opportunity to monitor their officers' actions for compliance with department policy, wrongdoing, misconduct, or for improving the quality of their street-level performance in their encounters with citizens. And yet, until a week before data collection ended, supervisors had not been granted "admin" access to BWC footage on Evidence.com. If supervisors wanted to review footage they had to ask training administrators to grant them access to the footage or go to the patrol officer who the footage belonged to. If BWCs had been implemented to serve as an important supervisory tool, supervisors would have had likely had "admin" access to BWC footage

to be used in proactive review of footage. Although supervisors did receive “admin” access to footage a week before data collection wrapped-up, they still seemed reluctant to change the way they did review footage.

A second factor that indicated the department’s reluctance to significantly increase pressure on officers for their performance was how the BWC policy was worded. Although supervisors did not have “admin” access to BWC footage, training administrators and command staff had access to almost all citizen encounters, yet the BWC policy only required them to proactively review footage for the purpose of identifying “training issues” and safety concerns. These officers were not mandated by the BWC policy to look for officer misconduct or the quality of performance officers delivered on the street.

Even though these command staff and training administrators did engage in proactive review of footage, it was not done in a systematic way and was done rather infrequently by command staff because they either did not find it to be a priority or saw the review of footage as an unfair practice to get officers in trouble. Training administrators on the other hand proactively reviewed footage more frequently than command staff but decided to handle issues informally with officers instead of reporting it to supervisors. Additionally, when BWC footage was used for in-service training, the footage itself was not shown to a group of people as to not humiliate officers and was instead used only as source material for traditional in-service training scenarios.

Moreover, the review of footage that focused somewhat more on an officer’s quality of performance or conduct was mostly reactive and done on an as-needed basis by

supervisors in response to complaints. Supervisors had to request footage from officers who had “admin” access to review footage, which made it difficult for them to proactively monitor their subordinates’ footage. However, even with their newly granted access to footage (they received at the end of data collection), supervisors were still reluctant to proactively review footage as they did not want to get their officers in trouble for minor violations of policy.

It seemed that the department tried to shield its officers from criticism that could result from the increased visibility of their actions in their implementation approach. In the way the access to the footage was initially assigned, the BWC policy was written, and how those responsible for reviewing footage behaved, it showed that BWCs were not implemented with intentions of holding officers more accountable for their performance and conduct and therefore, helps explain why accountability did not increase in intensity.

What we can take away from this chapter is that BWCs by themselves, were not a source of significant change, but how they were used impacted certain structures and practices more than others. At Sunnyvale, most of the changes that occurred were modest and involved reporting, use of discretion, training, and police-citizen interactions, while little change occurred in supervision (which seemingly lent itself to the greatest amount of change). Modest changes in these aspects of police work were related to the increasing scope accountability since BWCs made their work more visible to people within and outside of Sunnyvale Police Department. The little change that occurred in supervision, however, indicated that accountability had not increased in intensity and that the department did not intend to use them for that purpose. This is important since police

departments are implementing BWCs in response to calls for improved police accountability in the United States and abroad (Jennings et al., 2015; Coudert et al., 2015).

Thus, it did not seem as if Sunnyvale officers used BWCs as their proponents who laud the ability of BWCs as a strict accountability tool (Harris, 2010; Draisin, 2011) would have imagined. This falls in line with research on other police technologies that acknowledged the potential of new technology (Ericson and Haggerty, 1997), but caution that new technologies are not always used in ways that they were fully intended (Manning, 1992; Manning, 1996; Chan et al., 2001; Meehan, 1996; Chan, 2003; Koper et al., 2014; Koper et al., 2015). Significantly increasing the intensity of accountability for officers' daily performance in Sunnyvale would have been much more disruptive to existing organizational routines, which can account for the changes that did occur. For example, continuously monitoring officers for misconduct and offering frequent in-depth assessments of individual performance could undermine the kind of trust in the organization upon which professional relationships were based, heighten conflict between ranks, and expose officers to unwanted or even unfair criticism. In contrast, merely creating the threat of exposure for poor or egregious performance helped increase accountability and also signaled to outside constituents that the department was holding its officers more accountable. This approach also helped buffer the organization against more disruptive changes, and so it is perhaps unsurprising that BWCs were implemented in this way. There is a substantial literature that suggests police organizations implement

reforms in ways that are least disruptive to existing practices and routines (Mastrofski and Willis 2011), just as BWCs were implemented in Sunnyvale.

CHAPTER 7: THE MANAGERS VS. USERS, THE ROAD TO CONGRUENT TECHNOLOGICAL FRAMES

The purpose of this chapter is to gain perspectives on how different groups within a police organization made sense of body-worn cameras. Where the previous chapter showed how BWCs had shaped the behavior of officers and how BWCs “moved” the organization within the context of certain structures and practices, this chapter builds on the previous one as it focuses on how interactions and interpretations with BWCs over time shaped the perspectives of different groups. The technological frames approach allowed me to see how individuals’ different roles and interactions with BWCs shaped their attitudes and how in turn this might help explain their implementation and use.

The importance of this approach is that it does not only consider “the police” as one group but accounts for how individuals’ different rank or position in the Sunnyvale Police Department, in addition to their interactions with BWCs, shaped their perspectives about this technology. It does not assume that all police officers would have the same opinions or perceptions of BWCs but recognizes that one’s place in an organization and one’s interactions with a technology can account for intra-organizational differences in views. To date, no study has taken this technological frames approach to the study of BWCs. This goes beyond some research (Jennings et al., 2014; Ellis et al., 2015) that looked for changes in perceptions based on demographic data or assumed that

perceptions of BWCs would be uniform across an organization (although such studies are also necessary). A technological frames approach to the study of BWCs can leave us with insights that can be helpful to both scholars and practitioners. It can help scholars understand the social nature of this technology in a police agency, and can provide insights into where major differences may lie between different groups in how they respond to a new technology.

This chapter will begin by summarizing the key elements of technological frames according to Orlikowski and Gash's (1994) work on technological frames of reference (TFR). Next, I will identify and explain how I distinguished between the two relevant social groups at Sunnyvale: *Managers* and *Users*. I will then turn to my findings, which are broken up by the three TFR domains that Orlikowski and Gash (1994) identified: *the nature of technology*, *technology strategy*, and *technology in-use*. I found that while Managers had positive interpretations of BWCs from the beginning of implementation until data collection, User interpretations were characterized by initial apprehension and anxiety. These concerns waned, as Users gradually realized that BWCs would not be used to actively identify their mistakes or minor policy violations, or to scrutinize their performance. Additionally, with time, Users learned that BWCs benefitted several aspects of their day-to-day work which further contributed to their positive feelings toward BWCs (a finding that is consistent with other research, see Jennings et al., 2014).

The two main conclusions that I discuss is that while there were differences between groups in some of the frame domains, these differences were not a source of conflict. This is consistent with the notion that frames do not have to be similar to be

considered congruent as Orlikowski and Gash (1994) presented it. The second finding that I discuss in this chapter is that user frames changed over time within all three domains. While change in the nature of technology domain occurred rather quickly before frames congealed, change in the other two domains (technology in-use and technology strategy) was far more gradual. This challenges Orlikowski and Gash's (1994) assertion about the malleability of frames. They claimed that initial interpretations and interactions with technology are instrumental in shaping technological frames and that these initial interpretations are difficult to change once they are established. This seemed to be the case with the nature domain, but not with the technology strategy and technology in-use domains. Although Users did initially fear that BWCs were going to be used to get officers in trouble for minor instances of misconduct, their frames changed over time as they realized that BWCs were not going to be used by Managers as a "gotcha" mechanism for identifying and punishing their mistakes. This supports my findings from the previous chapter that BWCs had not been used at Sunnyvale in a way to increase the intensity of accountability despite increasing its scope. Thus, as officers learned through experience that BWCs were being used primarily to help protect and support them, they became much more positive and much less apprehensive about their implementation in the department.

Recapturing Technological Frames of Reference

Orlikowski and Gash explained that people make sense of technology through a process where they "develop particular assumptions, expectations and knowledge of the technology, which then serve to shape subsequent actions toward it" (1994, p. 175). What

that means is that people both interpret and interact with technology and these interpretations and interactions play off, and influence each other. The interplay between interpretations and interactions create a process they called technological frames.

Technological frames can be different between various groups within an organization based on their position within the organization (i.e. hierarchy) and roles around a certain technology (i.e. function) (Orlikowski and Gash, 1994; Chan, 2001; Davidson, 2006).

Applying this to policing suggests that the type of technology that a police organization is considering can sometimes affect the way different relevant social groups within that organization frame that technology (Orlikowski and Gash, 1994). Therefore, technological frames are in a sense what various groups within an organization feel and know about a certain type of technology. According to Orlikowski and Gash, technological frames can have a large impact on how much resistance or acceptance different groups within an organization display toward a particular technology.

According to Orlikowski and Gash (1994), with technological frames, first impressions tend to last and these early interpretations are reinforced by continual interaction with a technology. Technological frames are most susceptible to change early on and turn more rigid and difficult to change as they are reinforced with continued interaction. When relevant social groups have “aligned” frames, they are considered “congruent,” while incongruent frames can lead to noncompliance, abandonment, misuse, and breakdowns in communication, especially once incongruent frames have congealed (Orlikowski and Gash, 1994, p. 181).

Based on their work examining the implementation of information technology at an organization in the private sector, they identified three domains that I use in this chapter. These are the *nature of technology*, *the technology strategy*, and *technology in-use*. They found that people do not just look at technology in one way, but that one technology can be viewed in different contexts. To help illustrate these domains (as they can appear quite abstract), I will use collaboration platforms such as Blackboard or WebCT to explain how one group, students, can frame this technology in different contexts¹⁹.

Students may think of collaboration platforms regarding how difficult they are to access and use. They may find that when they do not have reliable internet access, using those platforms are difficult and that they could potentially lose some of their work. Additionally, they may feel like the user interface is confusing and therefore have trouble finding the content their instructors had made available to them. The way they think about this technology, in this case, is related to the technology's functionality and capabilities (i.e. ease-of-use or complexity and what it can achieve). This domain is known as the nature of technology and explained by Orlikowski and Gash (1994) it "refers to people's images of the technology and their understanding of its capabilities and functionality." (p. 183)

At the same time, they could also think of a collaboration platform in terms of why their university purchased and implemented it. They may believe that the school

¹⁹ These collaboration platforms are web-server based software that allow for course management through the internet. Instructors can post content for students to use in class including reading material, PowerPoint slides, syllabi and assignments to name a few. They can also use collaboration platforms such as these to communicate with students, via announcements, discussion forums, email services, and chat.

implemented the technology as a step toward offering more online or hybrid classes. They could also think that the university wanted to make it possible for instructors to effectively manage sections with more students as it offers ways to streamline some of the instructors' administrative work. Ultimately they may think that those platforms were adopted in attempts to decrease costs and increase profits. In this regard, the students are thinking about the motivations behind the implementation of a technology, which Orlikowski and Gash (1994) referred to as the technology strategy domain. It "refers to people's views of why their organization acquired and implemented the technology. It includes their understanding of the motivation or vision behind the adoption decision and its likely value to the organization." (Orlikowski and Gash, 1994, p.183)

Lastly, students may think about how a collaboration platform has been used. They may find that when an instructor actively uses the platform that they can have instant access to their assignment and test grades, knowing exactly how well they are doing in a class. Access to this information throughout the semester can help them devise strategies on how to attain their desired final grade. Subsequently, the students may rely less on their mid-term grades that are provided by the university as indicators of their performance. In this example, students are thinking about how a collaboration platform has been, or could be used, and any subsequent consequences of its use. Orlikowski and Gash (1994) referred to this domain as technology in-use and explained that it "refers to people's understanding of how technology will be used on a day-to-day basis and the likely or actual conditions and consequences associated with such use." (p. 183)

I have used these three domains to find out how relevant groups within the Sunnyvale Police Department made sense of BWCs. My focus was on understanding the frames of relevant social groups within these domains and explaining why they differed and/or have changed as this would offer practical insights that would be useful to both scholars and practitioners regarding the implementation and use of BWCs at Sunnyvale Police Department.

Relevant Social Groups

Initially, I divided participants into six groups based on their hierarchical positions in the department and job assignments. These groups of interest consisted of: the chief, command staff (majors, captains, and lieutenants), supervisors (sergeants), detectives (IA and external investigators), training administrators (officers who had been assigned as Evidence.com administrators who all are also training officers), and patrol officers (corporals, PFCs, and officers who were assigned a BWC). Although one can argue to put corporals in the supervisors group; based on the duties and daily work of corporals at this particular police organization, their work-related activities more closely resembled the responsibilities of other patrol officers than that of sergeants. Corporals at Sunnyvale sometimes filled-in for sergeants as OIC²⁰ when needed. All duties related to supervision such as performance reviews and discipline was delegated to sergeants. Furthermore, and most importantly, corporals interacted with BWCs in the exact same way as patrol officers (unless they also happened to be training administrators).

²⁰ Common police term for “officer in charge”.

During coding and analysis, I treated these groups as separate relevant social groups. However, after I mapped out all of the relevant social groups' technological frames in the three domains, I found, much like Orlikowski and Gash (1994), there were similarities in the frames of these groups based on their roles and responsibilities in the organization (which is related to hierarchy) and their interactions with BWCs (function). Based on these criteria, I found similarities and differences in frames around to two main groups: *Managers* and *Users*.

Managers consisted of the chief, command staff, and supervisors while Users consisted of patrol officers, detectives, and training administrators. Regarding hierarchy, Managers consisted of leaders and management and held higher ranks over the Users. Their roles in terms of BWCs were mostly centered around the implementation of BWCs, occasional review of footage, and making sure that officers wore and used the units according to policy protocols. Therefore, concerning function, Managers never interacted with the actual camera units and only rarely interacted with BWC footage.

Users, on the other hand, who consisted of the training administrators, patrol officers, and detectives, held lower ranks than Managers (composed mostly of PFCs and a few corporals) and had much more frequent interactions with BWCs and BWC footage. Their interaction with BWCs was mandated by the policy or their day-to-day work led them to use BWC footage often (e.g. investigation of internal complaints or reviewing footage for external investigations). This distinction between police officer groups, based on rank and responsibilities, is not uncommon and can be found in existing literature on police organizational culture, such as the distinction between “management cops” and

“street cops” (Reuss-Ianni, 1983; Paoline, 2003). In this characterization, management culture is often characterized by a concern for efficiency, rational decision-making, cost-effectiveness, and accountability (Ruess-Ianni, 1983). In contrast, street culture is more concerned with uncertainty, solidarity, on-the-job experience, and distrust of superior officers (Reuss-Ianni, 1983; Paoline, 2003).

Nature of Technology

According to Orlikowski and Gash (1994), *the nature of technology* refers to the way people view a technology regarding its functionality and capabilities (i.e. technical aspects of a technology), an idea similar to Chan’s (2001) discussion of “technical factors” of technology. If the nature of a new technology is complex, it might impact interpretations and interactions differently than if it was easier to understand and use (Ericson and Haggerty, 1997; Chan 2001, Davidson, 2002; Davidson, 2006). It is important that new technology is implemented and managed in a fashion that does not allow end users to bypass or misuse it (Sparrow, 1991; Ericson and Haggerty, 1997; Chan 2001). When a new technology is adopted, practitioners must be aware of all of the other changes that must be implemented with the new technology (Hough, 1980; Sparrow, 1991; Ericson and Haggerty; Chan, 2001). If managers are not aware of all the implications that accompany new technology, they may create unnecessary frustrations for themselves and increased resistance from end users (Orlikowski and Gash, 1994; Chan, 2001).

Regarding the nature of BWCs at Sunnyvale, there was a key difference that I found between Manager and User frames. That is, the Managers were more concerned

about the overall value of BWCs, while the Users were concerned about the ease-of-use of BWCs. Unlike Users, an important consideration for Managers regarding the implementation of BWC was their cost in relation to their capabilities: to what extent do the Axon Flex units provide value for money? How well did the cameras capture images and sound, and what was the nature of the storage associated with them? Users, in contrast, tended not to be concerned about cost and storage. Instead, Users cared about whether BWCs were “cop-proof” or easy-to-use regarding the battery life, troubleshooting, equipping them, accessing footage in the field or at the station, and the adequacy of the training that they received. I found that frames regarding the nature of BWCs for the managers did not change with time. However, those of the Users did change very shortly after implementation, which is consistent with two points that Orlikowski and Gash (1994) mentioned about technological frames. That is, interactions shape interpretations of technology and early frames are likely to congeal.

The Managers

There were two important factors that established how the Managers assessed the value of the BWCs they chose: the capabilities of the BWCs and how those capabilities compared to the financial cost. The Managers felt that overall, the capabilities that the Taser Axon Flex devices offered, made up for the costs. There were two particular features of the Axon Flex devices that were instrumental in the decision to choose them, and those involved the availability of third-party storage and that the Axon Flex BWCs were head-mounted. First, I will discuss how the cost of BWCs affected the perceptions of the Managers and will then move to the capabilities in which they saw value.

A view that the Managers held that was not shared by Users was concern over the cost of the BWCs. The Managers wanted to adopt the BWCs in a way that would cause less financial strain on the department both in the short-term and in the long-term and therefore decided to implement BWCs in annual batches of 8-10 units. There were three reasons for this. First, Sunnyvale was self-funding their BWC program and chose not to rely on grants. The primary reason for choosing to self-fund was to avoid relying on grant funding that could potentially dry up in the future leaving the department under financial strain. Second, if the department had bought all of the cameras at once and the program failed, it would have caused a financial hardship for the department. Lastly, by staggering the batches of new BWCs annually, the department would not have had to replace all of the cameras within the same time frame. The chief commented on this directly:

“Everyone thinks they are just going to implement 100%, you can’t do that, there is a huge fiscal impact in the beginning and that is going to continue so you have to plan accordingly. You have to have a replacement schedule. Ours is a five-year schedule. So I have done 25% every year, which will give me a year of just chillin’. Then we will start replacing the first 25% as needed. You need to think about how you will implement it and see it as an investment. If you just pull the trigger, like we typically do, at some point it will add up too much. If you phase it in, you slowly increase your spending instead of dealing with a million now and then five years after a million 5.”

The Managers mentioned that the camera prices have dropped over the four years they have been using them, from nearly \$1000 to \$500 per camera unit. However, that did not change their interpretations of the cost of BWCs as the other costs that involved the footage, far outweighed the initial investment in the units themselves. A Manager explained:

“The cost. Not only are you looking at the cameras, you’re looking at the uploads, you’re looking at the maintenance, the data storage. I think cost is a big

thing. You know now, we are trying to figure out a way to work with the state attorney's office because they have become so dependent on the video for prosecution purposes that we are having to buy and burn CD's, DVDs, whatever. So there's a cost involved in that too. Then there's a manpower cost too of having to do the video. I know that Evidence.com is working on a solution for that where we can provide access to the States Attorney's office and they can view it through Evidence.com and they will have their own user IDS. That is a workaround that is in the pipeline."

Deciding on how BWC footage would be stored and maintained is a major factor that all police agencies must consider when implementing BWCs (Hayes and Ericson, 2012) and that was the case at Sunnyvale. Some BWC brands require that police organizations house and maintain their own video data on-premises. Depending on the size of the agency this could be costly and could impact the security of the video since it leaves opportunity for footage to be tampered with. With increased use of BWCs, stored footage would increase and the cost of maintaining and housing the data on-premises could skyrocket (Hayes and Ericson, 2012). The Managers did mention that the up-front cost of the self-storage brands did seem attractive at first because the actual camera units were cheaper than the Axon Flex models, however, to the Managers at Sunnyvale, an important factor was to ensure the integrity of the footage.

"The other thing that they offered and I think they are still the only ones that offer this is Evidence.com. We are actually hands-off on the evidence storage; or the video storage; the data storage. All we do is, we set the permissions, and we set the retention period, 181 days. We dictate how it's going to be handled, [Taser] handles everything else. So the officers don't. There are no edit rights, there's no deletion. If they record something, it is there for a 181 days. You know, I figured I wanted a 6-month deal or 6-month retention period. Because I felt that was safe. So there is no deletion, there is no editing, all they can do is they can 'read-access'. And I feel a lot more, I think that adds to the integrity...of the of the... data storage because we don't have control of it. There is nothing I can do. I can do absolutely nothing to that video. As far as deletion, as far as losing SD cards, as far as anything else, we are absolutely, 100%. It's third party, it's managed by a third party." [Manager]

This member of the Managers mentioned the importance of upholding the “integrity” of the footage by removing the responsibility of the department handling the footage to eliminate any suspicion that they might have tampered with the footage. The fact that video footage could not be tampered with or edited in any way was instrumental in the department’s decision to go with both Axon Flex and Evidence.com.

In speaking with members of Managers, I found that another important factor in choosing to go with Taser was because the Axon Flex units were head-mounted. Depending on where a BWC is mounted on an officer’s body can potentially provide less than adequate video information. The BWCs mounted on an officer’s body may only record data that the officer’s body faces, not necessarily where the officer is looking (Hayes and Ericson, 2012). Additionally, BWCs that are mounted on the center of the officer’s chest may not capture events when the officer’s gun or Taser are drawn. Cameras mounted on an officer’s head may be more useful concerning capturing data that the officer is actually looking at. Furthermore, according to Hayes and Ericson (2012), head mounted cameras tend to be less shaky when officers are in a foot pursuit or fighting. This is exactly what the Managers at Sunnyvale considered when evaluating different BWC brands.

“Taser was the only one that offered the point-of-view cams. I’ve seen some video of the body-mounted ones; the chest or lapel-mounted cameras. I am much more comfortable with the head-mounted or point-of-view cameras. By that, I mean the eye-glass or the headband. And again a lot of that is when somebody comes up behind you. You know you never can predict if someone comes up behind you or how someone is going to approach you or how an incident is going to occur. Somebody comes behind me, for the body-mounted ones, I’ve got to turn my entire body, with the POV. I refer to them as point-of-view, that’s how I prefer to refer to them. As my head’s turning, the camera is

with me, it's following. It's not going to pick up everything that I see, but it sure will pick up a lot more than the chest mounted ones. For the most part, you're going to see what I see. I think it adds a lot more; it's a lot more convenient. The officers tell me it's their... they prefer it that way. You know, you're not blocking, again. As I'm approaching you or giving you a citation with the chest mounted one, all you're getting is my hands in front of me or the book, the ticket book or something. You're not actually seeing the reaction; you're not seeing what the officer is seeing. As I'm approaching, there might be a gun in the center console. There may be drugs on the passenger seat. If I'm blocking the view of the camera with my hand or with a ticket book, you're not going to pick it up. So as I'm approaching it, as my eyes are seeing it, the camera is picking up basically the same thing." [Manager]

In my discussions with different members of the Managers, I learned that Managers often said that BWCs had to be implemented “*the right way and not the most affordable way.*” It seemed as if Managers all did agree that the department made a wise choice in selecting the Axon Flex in combination with Evidence.com. Although Managers continued to perceive BWCs at Sunnyvale as a costly technology, they saw much value in the capabilities in their choice, namely the integrity of footage that Evidence.com provided and the versatility of the head-mounted cameras.

The Users

When it came to the nature of BWCs, Users had significantly different frames than the Managers. These frames also did not evolve over time but instead changed rather quickly with initial interactions. Although their frames were only characterized by one aspect, the ease-of-use, these frames were shaped by more content than those of the Managers. These included their perceptions of the battery life of the camera units, troubleshooting, equipping and donning them, accessing footage, and the adequacy of the training that they received. Overall, Users found that despite some minor technical issues

that they have adapted to, that BWCs were relatively straightforward, easy-to-use, or “cop-proof” as many Users liked to refer to them.

There was a consensus among 23 of the 29 Users who were interviewed that although the battery life of BWCs lasted for the entirety of a shift (10hrs), with time, just like cellphones, the battery life started to decrease and needed to be replaced. Two Users explained that they had had some issues with faulty batteries that needed to be replaced. However, once those batteries were replaced, they hardly had that problem again. With one of the officers, this has happened twice in the 3.5 years that he had been assigned a camera. A User commented:

“So, I have actually had two cameras replaced so far during [the last 3.5 years], I believe it’s just the batteries that have been replaced but I just tell the admins that I’m having the problem and he goes and replaces it so...it’s a pretty quick fix.”

Some Users appreciated that the device made a beeping sound when the battery was nearing low charge because it gave them a warning to get the battery replaced. But two officers did explain that this beeping noise could be somewhat annoying when they were trying to focus in the field whether it was a high-intensity situation or just a routine traffic stop.

“Daily [the battery] goes [flat]. I’ve had days where I’m halfway through the shift and it does these three beeps and it drives me completely nuts. For whatever reason, the battery life was...I don’t know what happened. But probably like the first year that I had it, every couple of weeks it would just, it would just start the whole shift [beeping]. It starts beeping constantly. And it does these three beeps every maybe five minutes or I don’t know what the time frame is. It seems like every 30 seconds, but I don’t know what caused that but that was like maddening. It was like just ‘tedo-tedo-tedo’. So to the point where I turned it off unless I knew I was going to a call.” [User]

In the case of this User, there seemed to be an issue beyond just a flat battery that caused the device to incorrectly indicate that the battery was fading and drove the User to turn the camera off. This is important because the departmental policy required the officers to have the devices on at all times. The beeping in the case of this User drove him to a point to break departmental policy and turn the camera off. This speaks to the point that the Managers made about not buying cheap cameras of a lower quality that would potentially cause more technical problems that could bring Users to a point of noncompliance. Luckily this User seemed to be the only one who had to go to such extreme measures to deal with the beeping. The User also explained that he was able to use his device according to policy, when the problem was eventually fixed. Despite a few Users having had some less-than-positive experiences with the battery life or the malfunctioning warning system, Users tended to share the opinion that the battery life was adequate and the camera lasts as long as they need them to.

The second aspect of User interpretations of ease-of-use involved troubleshooting when devices malfunctioned. They explained that when something did go wrong with the battery or another piece of the front-end device, that they knew whom to contact and were happy with the amount of time it took to be fixed. In fact, when patrol officers (who account for 23 of the 29 Users) responded to the survey, 100% (23) of them either agreed or strongly agreed that they knew whom to contact when something needed to be fixed or replaced. At the same time, training administrators (who were also Users) explained that patrol officers seldom came to them with serious technical issues and when they did encounter technical problems it usually consisted of easy-to-fix issues like replacing a

wire or a battery. Similarly, on the patrol officer survey, only 13% (3) officers explained that they did often encounter technical problems with their BWCs.

In addition to facing few technical difficulties with their devices, Users agreed that the camera units were easy to access and equip. When I asked Users how long it took to put the cameras on, they explained that it could take anywhere from 30 seconds to 2 minutes to have the devices on and ready-to-go. This User explained the process in detail:

“The process itself is actually pretty easy. There are only three different pieces that we need to worry about. You have the battery pack, you have the wire that connects the two, and then you have the actual camera itself. All of the material and everything is downloaded through the actual camera piece. At the beginning of each shift, when I come in, as soon as I walk in the roll-call room; that is pretty much the first thing that I do is go to grab my camera. The only thing that I keep is the wire, which I keep in a safe place, in the same place every time, so I don’t forget it. But it’s just all I have to do is just feed the wire through my vest. You know, we have a little carrier here for that [he pointed at the battery-pack carrier that was attached to his vest], so you just slip [battery pack] in, plug that [end of the wire into the battery pack] in and then you know hook [the wire] on the back of my collar, so I don’t have a lot of excess wire and then I plug [the other end of the wire] in the camera and then switch it on. It’s as simple as that. So, it literally takes me two minutes to get it going.”

Users explained that equipping and donning the camera units were easy and straightforward, but there were some factors that they had to get used to first. These involved issues with wires, issues with stability and sturdiness of the sunglasses, and the sunglasses and headbands that came with them. Wires were one of the more common topics of complaints that I heard from Users. They explained that sometimes the wires would be a source of annoyance in that they snapped sometimes or got snagged on something and either became unplugged or caused the camera to fall off of the officer’s head. One User explained his trouble with the wires:

“I mean sometimes if the wire comes loose, it stinks because when you press the button to start [recording], then you [typically] hear like ‘du-du’ [noise], so you know it’s recording. The worst is when you press it and you are not paying attention and you don’t notice that it didn’t happen. And then you’ll be in the middle of a scenario and you’re like ‘where is ...it is not beeping!’. You’ll look down and you’ll see your wire is hanging out, you’re like ‘fucking great.’ This isn’t going to look good. Because you’re desperately like [to the citizen] ‘wait, wait one second’ ... ‘Hold on, let me plug it in and turn it on’. That’s one of the worse things about it.”

Another User explained how the wires that connect the camera piece to the battery pack could break not just by snapping, but by breaking underneath the wire casing:

“One thing that sucks is the wire. I have had issues with the wire breaking on me or popping out while I’m recording an encounter. Sometimes you won’t even know that the wire breaks because it breaks on the inside and then you won’t know until after you are done with your shift. So what I have been doing is, tagging everything on my phone right after an encounter, if it needs to be tagged. This way I will know that the camera didn’t break or malfunction.”

Although these Users found the wires to sometimes be a cause of annoyance, they explained that wire malfunctions were rare and they had taken certain steps to avoid future problems like the user explained above. This User also said that in the 1.5 years that he had been assigned a BWC, the wire had only broken or come unplugged about 3 times.

Users also discussed that having cameras mounted on the heads were sometimes a source of annoyance (i.e. the sunglasses and/or the headbands). As I explained earlier, the cameras were head-mounted and at the time of data collection Taser offered two ways that the cameras could be mounted to the head. One way was special issue Oakley sunglasses with interchangeable lenses, the other was headbands that wrapped around the back of the head. Some Users chose to exclusively wear the sunglasses, some exclusively

wear the headbands, while a few switched between the two as needed. Users had expressed complaints with both methods.

Regarding the sunglasses, some Users explained that the glasses could be a source of annoyance when they entered buildings. Some Users indicated that this sometimes caused safety concerns for them since they felt like they could not see properly while wearing sunglasses inside a building. Other Users expressed frustration about the sunglasses when they interacted with citizens regardless of being inside a building or out on the street. They felt that it was disrespectful to speak to citizens with sunglasses on and that it could make them seem less personable, as this User explained:

“So, if I am going to a call that’s specifically in a residence or in a building...it is very impersonal to talk somebody with your sunglasses on. I was always raised that that’s a rude thing to do, so I’m not going to go into somebody’s house with my sunglasses on unless the situation dictates that I don’t have time to change it.”

Users also indicated that an issue with wearing the sunglasses while indoors could easily be fixed if the part that attached the camera to the glasses were allowed to swivel because then they would have been able to flip their sunglasses onto their heads and point the camera at the subject. However, at the time of implementation, this was not a possibility with the sunglasses and even though the sunglasses did come with interchangeable clear lenses for night time, several officers found it difficult or annoying to switch out on the fly during the day shift.

A common complaint that Users had about the headbands and was also the reason why some of them chose to live with the problems associated with the sunglasses was the headaches that the headbands caused. A majority of Users indicated that the headband

mounts sometimes squeezed too hard on their temples and caused headaches. In order to remedy this, some Users wore the headband around their necks until they had to interact with a citizen and then put it on during the interaction. Users who preferred the headbands had mentioned that the reason they choose the headband was that they either did not like to wear sunglasses indoors or because the weight of the actual camera on the sunglasses pulled the sunglasses down too far which causes the sunglasses to sit skew on the officer's face.

The last factor about equipping and donning BWCs that Users discussed was the stability and sturdiness of the cameras as they were conducting their daily activities. For the most part, Users were happy with the durability of the cameras, but in some cases, the cameras had fallen off. This has been particularly true during high-intensity situations when an officer was tussling with someone on the ground.

“I mean, it’s definitely fallen off a few times tussling with people, especially when you’re like on the ground with somebody rolling around. It’s actually flown off and all you really see is just the camera flying around, there’s the roof, there’s the ground kind of thing. But it’s not too bad. It hasn’t happened too many times. Just only when you really kind of get into it.” [User]

Eight of the 29 Users who participated in the study mentioned that a BWC had fallen off during some encounters that involved running and tussling. Although this was a small annoyance for Users, most of them explained that it was not a great concern to them since the camera usually captures all the relevant information leading up to tussling or chasing after an offender. None of the Users mentioned that this had ever adversely affected a complaint or internal investigation against them, but some did fear that this may be a possibility in the future.

Another factor that affected User frames within this domain was the ability to access footage at the station or in the field. Concerning accessing footage officers liked both platforms, but many Users explained that the Axon APP was very helpful when it came to writing reports. Although some Users preferred to exclusively use the PC platform, others did not prefer one over the other, most Users found and the Axon APP to be useful for writing reports. Of the two Users who did not like to use Axon APP, one explained that he preferred the user interface of the PC platform while the other said that he did not want to have his work content on his personal phone in the case that his cellphone would be subpoenaed in a case. However, other than these two Users most of them seemed to find the Axon APP useful for writing reports and the majority preferred to use the APP over the PC version because they could write their reports without having to log-on to a station PC and could do it right from their laptops.

Additionally, they also preferred the Axon APP because it made “tagging” or labeling easier. Users were required by policy to label or “tag” videos with case numbers and had the option to add other metadata if they so choose. Once a video was tagged, it stayed in the Evidence.com library indefinitely. All video that was not tagged got purged after six months. With that being said, Users tended to like the user interface of the Axon APP more for the purpose of tagging videos than the PC Evidence.com version. In addition, they liked that they could play the video back immediately after it had been recorded and if they have time after an encounter can quickly tag the video during that moment and did not have to worry about it at the end of their shifts.

“You can also download the Taser or Axon APP and then you can tag your footage there when you are still out on the road. I like to do it that way, so

when I have downtime, I can tag all my relevant data. So when I put it in the charging dock and it uploads to Evidence.com, I don't have to go do it by the computers. It just saves time in my opinion. Sometimes, you have a lot of footage, so you'll spend like a couple hours at the computer, but when you do it as you go, it's more efficient." [User]

As the User explained above, tagging videos with the APP while they were in the field in made it possible to avoid having to do hours of work in the station at the end of their shifts. Whether Users preferred the APP over the PC platform, all Users agreed that accessing footage whether in the field or on the street was easy. Out of the 23 patrol officers who were surveyed, 22 agreed or strongly agreed that footage was easy to access and 21 of 23 Users also agreed that footage was easy to access in the field.

The last factor that impacted the way User frames were formed was their perception of the quality of training that they had received. Regarding training, the training administrators were put in charge of doing that since training administrators are also the Taser instructors. Managers found that it would be fitting for training administrators to receive the training on the BWCs from Taser since they were already comfortable with Taser. A training administrator explained:

"All the [training administrators], went through a certification class with Taser. It was like a 10-hour day. And you get your Evidence.com and Evidence Sync training. It's for the entire process. It's for, troubleshooting the cameras, because you know they have little issues."

The training administrators' roles were to be the point of contact for patrol officers regarding training and maintenance. Instead of sending all Users through training, the department thought that it would be easier to certify the training administrators to conduct the training and handle any other technical issues regarding the devices and Evidence.com.

Users found this training approach efficient and effective. Table 7, shows patrol officer responses to the survey, and a vast majority of them indicated that they were happy with the amount of training that they received on for their devices and Evidence.com. Users explained during interviews that they found the training that they received from the training administrators to be very practical and straightforward and that when they had questions about anything, the training administrators were able to answer any questions for them.

Table 7 Patrol Officer Responses on Survey about Training Received. N=23

<i>Survey Item</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>N/A</i>
<i>I was given an adequate amount of training on how to use my BWC.</i>	10	12	0	1	0
<i>I was given an adequate amount of training on how to access BWC footage.</i>	11	10	2	0	0
<i>I was given an adequate amount of training on how to retrieve BWC footage.</i>	10	11	1	0	1

User frames were centered around the ease-of-use and for the most part, they explained that while there were some hiccups right at the beginning of implementation they were able to adapt accordingly. When patrol officers were asked on the survey to rate how easy BWCs were to use (10 being the easiest and 1 the hardest), 52% (12) provided a rating of 10, 17% (4) said 9, 26% (6) said 8, while only one officer rated them at 3. During interviews with all Users, 27 out of the 29 mentioned that after anywhere from a week to a month, they became used to the BWCs or found ways to make the best out of their situation. Users were able to adapt to the challenged that the nature of BWCs posed and this helped change their perception early-on the framing process I will provide

two examples of how they adapted: 1. In order to deal with breaking wires, almost every officer resorted to some unique and rather creative methods of attaching the wires to their bodies. Several officers weaved the wires through their bulletproof vests to reduce the chances of excess wires getting caught on objects. Other officers resorted to making tiny holes in their shirts and feeding the wires underneath their shirts. 2. In order to avoid wearing sunglasses inside or having to deal with the pressure headaches associated with wearing the headbands, some officers chose to wear the sunglasses without any lenses in them.

Overall, what I have learned about how officers at Sunnyvale framed the nature of BWCs was that the Managers were more concerned with the value of BWCs while Users were more concerned with the ease-of-use of the devices and Evidence.com. This made sense given the nature of their interactions with BWCs. Users were tasked with interacting with BWCs while the Managers were more involved in the evaluation and implementation of BWCs (in addition to some occasional review of footage). Additionally, I found that the frames of the Managers did not change much over time, but the frames of Users did change very close to the beginning of implementation in that they initially encountered some difficulties with the devices but were then able to adapt to them. This is consistent with what Orlikowski and Gash (1994) said about frames in that initial interpretations and interactions are most instrumental in changing frames and that frames that were formed early on tend to congeal and stay relatively the same.

Technology Strategy

The *technology strategy* refers to how individuals view the reasons for why a technology was implemented or how certain technologies were implemented (Orlikowski and Gash, 1994; Davidson, 2002; Davidson, 2006). Alternatively, the technological strategy domain is about the perceptions of *how* and/or *why* a technology was adopted. People belonging to relevant social groups in an organization may have different perceptions of why they think a technology was implemented, which can affect their interaction with that technology. If incongruence among the various group members exists in this domain, it can lead to increased resistance or lack of buy-in from certain individuals (Orlikowski and Gash, 1994; Stojkovic et al., 2012).

During my time at Sunnyvale, I found that initially there were stark differences between the frames of Managers and Users closer to the time of implementation, however, over time, these frames became increasingly congruent. The Managers wanted to explore using BWCs to improve training, wanted to protect their officers from complaints, and feared pushback from Users and community. Users, on the other hand, interpreted the Managers' motivations for implementing BWCs as a means to monitor their behavior and possibly use video footage to sanction them for misconduct or breaking department policy. With time, however, Users came to believe that BWCs were implemented to protect them, ultimately making their frames more similar to those of the Managers. In the following section, I will explain these two groups' technological strategy frames in further detail and show how they changed over time.

The Managers

The Managers' frames consisted of three factors. They wanted to implement BWCs to explore ways to train new officers during field training, they felt a need to protect their officers after an event that I will refer to as the "handcuff event", and they were concerned about officer and community pushback. These concerns impacted how they went forward with the implementation of BWCs. Since one of these reasons was for training newer recruits, the initial batch of BWCs was handed to field training officers (FTOs). Since Managers wanted BWCs to be used in a way to protect officers against frivolous or unsubstantiated complaints, they gave subsequent batches to officers who had more citizen contacts. And because they were afraid of pushback from the officers, they included the FOP and other groups in the policy drafting process. I will explore these three aspects of Managers' technology strategy domain further.

One of the reasons that BWCs were implemented according to Managers was for BWCs to be used when training new recruits. The reasoning behind this was that BWCs would first, record and document the field training that new officers received, but then would also serve as a tool that FTOs could use to review and provide constructive criticism.

"It was around 2012-2013, we started looking at these body-wear, personal-wearable cameras [BWCs] as an extension [of dashboard cameras]. Well, we looked at them and made a determination that they would be pretty good to have, in particular with field training officers in a field training venue where the officers are coming out of the academy and you're going to make mistakes. As we looked the cameras, we found that, based on our prior knowledge and experience, we're very visual learners, we are very visually oriented when it comes to learning. So I can sit there as a field training officer and tell you and tell you: 'You did this wrong, you did this wrong, you did this wrong, don't do it again'. You are going to do it again. Until you actually get it drilled in and

actually can see it occurring which is the original cause, or what the original use of the camera was.” [Manager]

Another Manager explained:

“Training, training is a big thing. When you watch a video, you can tell the officer: ‘hey you didn’t approach the house in a safe way’ or ‘this and that wasn’t safe’. ‘You went too far up on the car; you couldn’t open the door.’ Not until you see yourself making a mistake, does it really sink in. It feels totally different watching yourself on video make a mistake as opposed to someone telling you that you are making a mistake.”

An important reason for implementing BWCs as a training tool for new officers was to be able to document what happened, so FTOs could use the information to provide constructive criticism to new recruits. Managers also thought that in cases where a recruit and an FTO might disagree on what happened during a stop, the footage would serve as a means to verify exactly what happened.

Since one of the primary motivations behind the acquisition of BWCs was training new recruits, Managers decided to assign the first batch of BWCs solely to FTOs. Additionally, some of these FTOs also became the training administrators who were put in charge of training officers on how to use BWCs and take care of administrator duties like assigning footage and burning DVDs (as I outlined in a previous chapter). The plan was to make the FTOs the point of contact for all of the Users when it came to BWCs. The FTOs were put through a 10-hour long training program by Taser and received certification to training others on how to use BWCs. With this training and experience, the Managers felt that when subsequent batches were rolled out that FTOs would be able to adequately assist other Users with their BWCs.

Another reason why BWCs were implemented at Sunnyvale according to the Managers, was to protect officers when complaints were filed against them. According to Managers, one particular event served as the “straw that broke the camel’s back” when it came to implementing BWCs. This event, I will refer to as the “handcuff event”. A Manager explained there was a situation where an intoxicated person was arrested and put in handcuffs at a bar. As the officers were walking the suspect to the police vehicle to take him to the station for processing, the suspect spat on one of the officers. At that point, the officer punched this handcuffed individual in the face three times for spitting on him. The problem for Sunnyvale PD was that someone had captured *some* of what had transpired on a cellphone camera and subsequently the “victim” (the handcuffed offender) filed a multi-million-dollar lawsuit against the department. According to officers at Sunnyvale PD, the cellphone recording did not start until after the officer was spat on and thus only showed a Sunnyvale PD police officer punching a handcuffed man in the face for what seemed to be no apparent reason. The cellphone video made it on social media and the local news which subsequently led to backlash from the public. A manager explained:

“[The handcuff event] was probably about three or more years ago when that happened. I think that set the ball in motion cause all we had was a simple cellphone footage from an intoxicated person at the bar that night. It showed you a lot of what happened but I don't think it showed you the whole picture. I think the officer was wrong; what he did, but there might have been some more things just to consider. I don't understand any situation where he could punch somebody in handcuffs, but, just saying, maybe he was spat on whatever. Again, it doesn't justify punching a man in handcuffs, but maybe if it were... If that officer had been wearing a body-worn camera, you would have had the entire story from start to finish. It wouldn't be some jumpy cellphone footage from a drunk person. It would be from a tried, true, tested video recorder and have the entire story on there from the officer's point of view.”

Looking at news articles and videos, it seemed as if in the week following the incident, the story became quite popular on the local news circuit. The media painted this event as a racial issue since the victim was black²¹ and the NAACP became involved in the matter. While some of the articles about the event mentioned that the police were called out to at the bar because the victim had been kicked out for unruly and violent behavior, some of the articles downplayed the victim's actions or used vague terminology when it came to why the victim was arrested. None of the articles about the handcuff event mentioned that the victim had spat on the officer, nor did the cellphone footage show whether the victim actually spat on the officer.

This event embarrassed the department, and while Managers did agree that the officer who had punched the individual was certainly wrong, they did feel as though the broken cellphone footage had missed some important details (like the officer being spat on and the belligerent behavior of the individual). As one manager said:

"You know; the incident was videotaped by the citizen. We didn't have our own footage. The entire incident wasn't videotaped. The citizen whipped out their phone in the middle of it and then started taping. The video basically showed...not necessarily the aftermath but the video showed an officer hitting an arrestee in the face at a bar when he was handcuffed, smacked him in the face three times. That was the part that was videotaped. Nothing prior to that was videotaped. If they had cameras on at the time, they would have shown everything that he did prior to that. That's my opinion. I think that's one of the reasons that 'broke the camel's back'. We've had in-car cameras, [BWCs] are way better than in-car cameras. That and similar incidents, like that across the country, might have pushed it over the edge. But even before some of these more recent events occurred, we've already had these. Because after [the handcuff event] happened, we wanted to make sure that when something like that...and it will...it is inevitable, we, we want to make sure we had it all on tape. You know? So [BWCs] can clear up the big complaints as much as the little ones."

²¹ The police officer was Hispanic.

Managers anticipated that something like this was likely going to happen in the future and that it wanted to protect officers and the department from future complaints and lawsuits and thus decided to move forward with the implementation of BWCs.

Since protecting officers against complaints was also a primary consideration, Managers decided that subsequent batches of BWCs would be handed to officers with the most citizen interactions. As I explained earlier, the first batch of BWCs was handed to FTOs because another primary reason for implementing BWCs was to train new recruits. However, subsequent batches were assigned to Users with the most citizen interactions. The reasoning behind this was that Managers assumed that officers who had more interactions with the public, had a higher chance of drawing complaints. Managers also explained that there were a few officers who received BWCs because they were known to be rude to citizens, however, the subsequent batches were mostly handed out to the officers with the most citizen contacts. Although Users explained that they thought there were some criteria as to why they were receiving BWCs, none of them could say what it was with much certainty. Those who guessed, figured it was either handed to officers with more citizen interactions or it was random. However, no Users could discuss this with much certainty when they were probed about the assignment process.

This ties in with a final aspect of Manager technological frames within this domain, namely Managers were concerned about pushback from Users and the community when they implemented BWCs. In terms of pushback from Users, Managers anticipated that Users might feel as though the cameras would be used to identify and charge them with minor infractions of department policies. One Manager explained:

“You know, initially, I don't think they understood what the intent was. [Users] felt that it was another way of catching them doing wrong. They felt it was kind of a ‘big brother deal’. I just think that they were a little leery about it and didn't understand the benefits [of having BWCs]. I think their initial thought was: ‘I think you're going to catch me dropping an f-bomb, or you're going to catch me doing this or doing that’.”

The fear was that Users would be resentful of the BWCs and not necessarily see the benefits that could come from their implementation. Managers assumed that Users would see BWCs as a tool that would be used to get them in trouble for minor violations and that they would be watched all the time.

At the same time, Managers were also concerned that the community might take issue with BWCs. The primary concern was that members of the community would fear that their privacy might be violated.

“[The community] thought it was a violation of their privacy. We had to recite some case law that shows there is no expectation of privacy outside the home. It's kind of amazing because most people when you go to their homes, where there is an expectation of privacy, or residence, hotel, or something; there's no pushback. They're like: ‘Yea that's fine’. I mean, very rarely does somebody say: ‘no I don't want the camera on’. And I think, the media does what the media does, they have a purpose in life, but there's so much negative publicity about policing that I think the community realizes, with the cameras, it holds everybody to a standard. And it's a protection. It's not a protection strictly for me, it's not just a protection for my officers, it's a protection for the community, for the city, for everybody. It's absolutely, all inclusive.” [Manager]

Despite anticipating some pushback from the community, however, according to Managers and news reports the community and stakeholder groups, for the most part, were open to the idea of getting BWCs since it would protect the rights of citizens (Weiner, 2013). Nonetheless, to reduce pushback from Users and the community, Managers decided to draft a BWC policy prior to the implementation of BWCs with an eye on reducing some of the fears that Users or community may have had.

The BWC policy was implemented before the acquisition of BWCs and according to Managers, this was a calculated decision since they tried to address some sources of anxiety with the policy before adopting the cameras. They did this by giving drafts to different members of the community and the FOP to look over and provide some input on the policy.

“Well let's go a little further back, when we started talking about [BWCs], we wrote a policy, we vetted the policies through everybody and anybody that we thought we could. We had all kinds of legal reviews with the NAACP, the ACLU, the FOP, everybody and anybody that I could think of, I vetted it. So, we came up with a policy, we put the policy up. We made a decision to go with these cameras.” [Manager]

This Manager goes continued to discuss the importance of involving other groups in the policy creation process. In the quote below, he addressed the importance of including the FOP in the policy writing process.

“It was kind of testing the water. You know the FOP had their input, they were actively involved. That's what I think one of the things that I probably want to do more often with other policies like the promotional process. You know I go to them, I say: 'here's my draft, mark it up, I'm not telling you are going to get everything you want, but give me some suggestions about what will make it easier for you as the FOP to support it and endorse it'. What that does is it gives them some ownership, they believe and they know that they were actually involved in the final product so it gives them some of the ownership. It's not just: 'the chief says'. 'We collectively decided that that is the way it is supposed to go'. They feel like they are part of it.”

Participation in the policy creation process also provided an opportunity for members of the department or the community to voice some concerns about the BWCs that the agency could address. Managers felt that this strategy was instrumental in reducing anxiety from officers and the community and ultimately reducing pushback. Although I

was unable to collect data from the community (since they can also be considered a relevant social group), I did find that the Managers' strategy worked with Users.

The Users

In the previous section describing the frames of Managers, we learned that Managers feared push-back from Users in that Users would feel as though their every move would be watched. What I learned from Users is that Managers were correct in their assumption. User frames were characterized by a great deal of apprehension that BWCs were implemented in order to catch them doing wrong. However, over time, User frames changed within this domain to viewing BWCs as a source of protection against complaints since command staff did not use the footage as "gotcha" mechanism for finding officers at fault.

Like Managers, Users also felt that a major driving force behind the implementation of BWCs was due to the handcuff event. Additionally, Users also felt that the video that captured the handcuff event did not show the entire situation. One User shared his thoughts on the handcuff event:

"Well I'm sure you have heard about this or have probably seen the video on social media or what not, but we had an incident here not long ago. What happened was, there was a drunk person that was arrested at a bar and they had spit on an officer. So that officer allegedly punched the guy in cuffs. The guy was in cuffs so you have no reason to punch him. So in my opinion, the officer was in the wrong and deserved whatever happened to him after that. But the main problem is that the video that surfaced, it, you know, it blew it out of proportion. So even though the officer was in the wrong, some other guy filmed only like 30 seconds of the whole thing where the officer hits him. So the problem is that for like 20 minutes before that, the guy was being a total dickhead and screaming, yelling insults, and acting like fool and spitting on the officer. He was drunk, in public, acting disorderly, and so that 30-second clip came out and all of the charges were dropped against the guy and the officer was disciplined. So you

know even though I think the officer had no right to punch or slap or whatever, you know, hit the guy, the video that came out was not entirely accurate.”

Although both groups attributed the implementation, at least to some part, being linked to the handcuff event, Users assumed that Managers had different intentions. In other words, the Managers decided to implement BWCs after the handcuff event to protect officers and the department from complaints and future events like that. However, Users interpreted that the handcuff event led to the implementation of BWCs for Managers to monitor their behavior and charge them with minor infractions of departmental policies.

Many officers in the user groups explained that “*police officers are human like everyone else*” and that they have bad days on the job or sometimes make mistakes. Although they agreed that this argument was no excuse for unprofessional behavior, they felt that BWCs would shed light on every mistake they made and that Managers would use this footage to charge them with policy violations and thus were apprehensive of them at first.

“I wasn’t in favor of them because I thought it was going to be used kind of a big brother like ‘we’re going to see everything that you’re doing’, ‘where you’re going to, watch your every move’. ‘You have to have them on at all times except for your personal time’. Basically, you’re being babysat, which I was ignorant to the fact because I didn’t know. It’s like how they’re going to be used. But that’s just how I viewed it. It’s like, ‘Why are we going to wear these cameras?’” [User]

Another user explained:

“Are [Managers] just going to sit up in their offices all day and watch video footage and just try to catch officers using profanity or making a joke to one another? Because we have a period of times say like in a traffic stop when you’re in contact with a citizen and then we go back to our cars and say like a backup guy comes with us and maybe we’re just kind of just talking ... joking a little bit in the middle of the traffic stop just to one another back in our police car. You know? That’s going to be caught on there. Sometimes the officers forget that and

they say something they shouldn't. So are they going to get in trouble for saying something inappropriate even though they're not doing it in front of a citizen and there's no complaint over it?"

It seemed as if Users were unsure of how BWCs were going to be used and this caused much apprehension at first.

However, over time Users no longer thought that BWCs would be used to get them in trouble for minor policy infractions. As the User below explained.

"You know after working with [BWCs] for a couple years, I, absolutely...I'm comfortable with it now, joking everything like that, not too much like I used to but I mean I'm comfortable with it now I know they won't hit me up for, you know, being inappropriate around the officers and everything. As long as it's just not around the citizens, that's fine you know. I have always been professional with the citizens, so I have not had anything come back from like them reviewing video, see me goofing off or anything like that."

Another user explained:

"I think most [Users] have accepted them now. I think the majority of people here think a lot of complaints have been cleared out because of these cameras. If you're talking a million-dollar lawsuit getting cleared because the camera has clear footage, I think guys are tending to side with the cameras. And our commanders aren't going through looking at videos and charging people with violations. Even the commanders won't do this. It's not like they are watching what we are doing. If there is an actual complaint and look at it and find something wrong, then we will charge an officer."

This last quote speaks to how the User's perception changed over time, in that he realized that BWCs were being used as a means to protect them and the department from complaints. His quote also reveals another important piece of the puzzle that I probed into further during my time at Sunnyvale and that is, in addition to their experiences using BWCs, certain factors in the implementation strategy contributed to the change in frames.

Probing after this, I found that the BWC policy and the rollout of BWCs contributed to changing attitudes regarding Managers' motivations behind the implementation of BWCs. As I have explained earlier, the policy creation process was inclusive in that Managers invited other groups including the FOP and some FTOs to give their comments on working drafts of the policy. Being welcomed to give feedback to Managers during the creation of the policy allowed the FOP to voice some concerns about BWCs that Users might have had. The FOP president, who was also a User and put in charge of handing out the actual devices to officers, would tell officers that they did not have to worry about being watched all the time.

“Well, I know when I first initially got the camera from Corporal C1, [who is the FOP president] was in charge of, you know, dispersing [the BWCs] and he told me one-on-one that he was like, ‘look I have met with the command staff, I have talked with them, they have assured that the purpose of these cameras is not for that kind of thing. Not to review, you know, what you do all the time. Yes, they may look at it sometimes for training purposes but it’s only stemming from a certain incident that you might have been on.’ You know, if you are dealing with something with an armed subject, yeah they may go ahead and review that just to see, ‘hey how did we handle that as a unit?’ You know? But it was really Corporal C1 that came to me. It wasn’t necessarily that I had a direct contact with the command staff that they told me. I guess you know; you have to take it with how it’s presented. You know, I mean the one thing I appreciated with Corporal C1 is the fact that, you know, you could just tell the sincerity in his voice and what not, as he delivered that as he was telling me that ‘hey look. You know, this isn’t going to be abused, you know it’s here for you know our benefit’, not to ...you know ‘nobody here in the department is trying to get us hemmed up not for anything.’” [User]

It seems as if the FOP's involvement helped a lot but that also the fact that the FOP president was one of the FTOs who was assigned to delivering the BWCs to the Users who were assigned to them by Managers. Interesting enough, when I asked Managers whether they strategically planned to have the FOP president be the one to hand these

out, they said that it was just a coincidence. His presidency had nothing to do with it and that it was instead his willingness to be the first User to pilot a unit combined with his assignment as an FTO and being a certified Taser instructor. It seemed as if including the FOP in the policy planning and having the president of the FOP (who was also a User and not a member of the Managers) be the one to hand out the BWCs to officers, played a major role in quelling some initial apprehension with some officers.

In addition, the policy in itself was very vague and loose in a sense when it came to the review of footage. It did not call for supervisors or command staff to review footage for the purpose of finding conduct policy violations. Instead, the policy states that command staff and training administrators had to review footage to look for training opportunities or officer safety issues.

1. Designated management and retention Officers will conduct weekly reviews of videos for proper use and training issues.
2. Designated management and retention Officers will report any Officer safety issues to a Sergeant or Commander for remedial training.

The policy said nothing about looking at the general conduct of officers including assessing the quality of their work and identifying incidents of misconduct or failure to follow policy.

“Well you know if command staff was just going to sit there and charge people for every small thing, then you would lose trust in your officers, they would be too scared to do anything. But the policy cleared that up.” [User]

Although the policy did not say anything about reviewing footage for the purpose of monitoring officer conduct, many Users told me that the policy stated that Managers

were not allowed to charge officers with minor infractions unless it stemmed from an actual complaint. This was interesting to me because it did not seem to be an accurate interpretation of the actual policy. At the same time, it seemed like it was not a common practice in the department to charge officers with violations unless they stemmed from a complaint. An example of this could be if an officer cursed during a stop and the citizen came in and complained, the officer would get charged if the video supported the citizen's account. However, if a member of the command staff were reviewing footage to look for safety issues and heard an officer curse and no complaint was filed by a citizen, that officer would not get charged. Only if serious violations were found, would the officer be charged with a policy violation and disciplinary action would be taken. A User explained:

"I did have one run-in with [command staff] B1 where he did say something about the fact that 'hey look, I know you guys are going to curse and you guys are going to say stuff on scene and you are caught in a moment', you know 'you are not going to get into trouble for things like that'. You know, it happens. We are all human beings you know? but he did say you know 'of course yes if things go little bit beyond of course if we get a complaint', you know, 'then you got to look at it a little bit carefully'. So, you know if B1 caught me in the hallway and you know like he did there where he mentioned things like that. Okay, they will put it in my mind. It did put my mind at ease because they are like 'okay cool', you know, 'it's okay that let curse words out here and there, you're not going to get into trouble', you know or whatever."

It seemed that this unwritten, informal, rule related to footage review also played a major role in changing the perceptions of Users over time. Whether this is because officers interpreted the very vague and loosely worded policy in this way, or whether this informal rule was something that was more deliberate was unknown since neither user

nor Managers would expand on this discrepancy that existed between the policy and the way people interpreted it.

The last factor that impacted the change in frames of Users was the way that the BWCs were rolled out. I have explained earlier that BWCs were purchased and rolled out in batches of 8-10 per year. Although Managers explained that this was mainly done to reduce the costs of maintenance and replacement of BWCs, the gradual rollout allowed an opportunity for Users who did not yet have BWCs to see how BWCs were being used. Users noticed that those officers who did have BWCs were not getting in trouble for minor infractions and that BWC footage was being used to dismiss unfounded complaints. Indeed, several officers eventually volunteered to receive BWCs. A User explained that he volunteered for his BWC because he noticed that a lot of complaints involving racial discrimination against other User were proven false, a topic he felt very passionate about.

User: "I volunteered for one"

Researcher: "So why did you volunteer?"

User: "Why, wouldn't you want one?"

Researcher: "I don't know, because I have never been in your shoes as a police officer, so your insight is very valuable to me."

User: There's countless benefits to these. It's an extra witness. You know [Users] kept facing accusations that were proven false, you know? Like the NAACP trying to sue the department and making all these problems. I also think, as a side note, since I mentioned race, I hate with everything in me the racial argument of how police 'hate black people' that's disgusting, it's a blame game. And a group of individuals, not all black people, but a group of select individuals who happen to be black and using that to not take responsibility for their actions and society is letting it happen. I have black friends and I have black family members whom I love very much and they are no different and we are not better

than any black man and I treat white people the same so I think the cameras have and will continue to put an end to that shit too. The footage then will show the truth, [the BWC] wouldn't be turned on during the heat of the moment, it was on the whole time and it shows the truth. I hope that will quiet this whole notion that police hate black people. And you know what, if this footage catches those police officers who do hate black people then good fucking riddance, because fuck them. So I think these cameras will stop all of this close-mindedness "

This User's quote is relevant because he explained that he volunteered for his BWC because the footage could help undermine complaints that officers were engaging in racial discrimination. Additionally, this quote also serves as an example of how much officer TFRs changed over time. Officers just did not begin to tolerate them, but instead viewed them as something that was truly beneficial to them and that BWCs were in fact implemented to protect them and the department.

In sum, as officers experienced that BWCs would not be used to get them in trouble for minor violations of departmental policy, they became more comfortable with them, while three factors related to the implementation of BWCs at Sunnyvale also contributed to the change in User frames over time. First, the involvement of the FOP in the policy creation process and inadvertently assigning the duty of handing BWCs out to officers to the FOP president helped ease some initial apprehension. Second, the way the policy was written outlining how footage would be reviewed, made it clear that conduct was not a primary motivation of reviewing footage. In addition, the informal understanding between Users and Managers that officer footage would only be charged with a minor infraction when a citizen had filed a complaint reduced some anxiety. Lastly, rolling the BWCs out in batches of 8-10 at a time gave provided an opportunity for those Users who did not yet have BWCs to see how they and the resulting footage

would be used. Frames changed from seeing the motivations behind the implementation of BWCs to get officers in trouble for minor violations of policy to a source of protection against frivolous and false complaints against officers and the department.

Technology in Use

The *Technology in Use* domain refers to how relevant social groups within an organization think a technology will be used in daily practice. This domain also relates to any perceived consequences that may come with the daily use of a new technology (Orlikowski and Gash, 1994; Shaw et al., 1997; Davidson, 2006). In other words, the primary concern with the technology in-use domain is how different groups interpret the way a technology is used within an organization and what consequences it might have for their daily operations. At Sunnyvale, there were major differences between the relevant social groups in frame content of the technology in-use domain when BWCs were first implemented, but that frames between Managers and Users changed over time to become more congruent.

While Managers initially perceived that BWCs would be used mainly to protect the department from complaints and to help with training new recruits, it seemed that Manager frames slightly changed over time. Manager frames changed only a little to where they came to perceive that BWCs were instrumental in protecting the department against complaints and lawsuits and that BWC footage could also be used for in-service training. Users, on the other hand, had far more interaction with BWCs, and it makes sense why their frames changed far more significantly than that of the Managers. Users initially interpreted BWCs as a tool that would be used to get them in trouble for

committing minor violations, however, with time, this view significantly changed.

Although Users still viewed that that BWCs *could* be used to get them in trouble as they became more familiar with the technology they discovered a variety of different benefits and disadvantages that involved reporting, investigations, complaints, and self-improvement. Users all indicated that the many advantages they experienced with BWCs far outweighed any drawbacks. The major point that I will highlight in this section is that the frames of the Managers slightly changed over time while Users' changed significantly.

The Managers

Managers' motivations behind adopting BWCs were highly centered around two factors: training and protecting the department and officers from complaints. Similarly, Managers explained that towards the beginning of implementation, they thought that BWCs would be used primarily for training newer officers and to protect officers from frivolous complaints. In terms of training, Managers explained that officers at Sunnyvale were "visual learners" and that BWC footage would initially be used to point out certain aspects of an officer's behavior out to them. Managers felt that it was easier for them to correct the behavior of their subordinates with visual data. A Manager explained:

"Well let's go back because initially when [BWCs were implemented], we were utilizing [BWCs] for the field training officers. Again because as a recruit out of the academy, you are going to make mistakes. I can tell you all day long about what you did wrong but until you actually visualize it and see what I am talking about, chances are you're going to continue with that process. But after you visualize it and evaluate yourself, you can say 'ok I see where I did this wrong'; and you are less likely to do it again. So that is what the initial intent was as far as training."

Not only did BWC footage make it easy to help officers visualize their behavior, but Evidence.com made it easy to share footage with officers when they wanted to reference certain aspects of an officer's performance with them. When a Manager became aware of an issue that needed to be addressed with an officer, whether it is a safety concern or involved questionable behavior by a patrol officer, supervisors could request footage from training administrators, pull it up, and explain exactly what needed to be addressed with the officer. This had been particularly true for those subordinates that had a more difficult time taking criticism.

However, over time, Managers perceived that BWCs also had a purpose in in-service training in that BWCs could be used to inspire in-service training scenarios (and eventually included it in the BWC policy). The same Manager explained how he thought the way BWCs had been used within the context of training had evolved:

“But what it has evolved to, is that there are different situations that officers are involved in on the street. It could be an arrest, it could be a traffic stop, it could be... Let's say for instance a traffic stop where [the citizen] become very disorderly and argumentative. The officers are calming it down and they are handling it. OK well, what we are doing is that when they are viewing the video and they are looking at the video, we will decide to maybe put that scenario into our training program. So there are different situations, it is across the board, it could be a foot chase, it could be a mental subject that locks himself into a bathroom in a public establishment. 'How do you respond to that as an individual officer and how do you respond to that as an agency'. You know? 'Was it handled correctly?' 'What are the different ways we could handle it?' 'Is there something we can do to improve it?' Everything gives you an opportunity to learn and evaluate. I think what we are doing is that we are using situations that could have gone either way and I am not... the officer may have done very well or there may have been some room for improvement. And we are developing training scenarios based on those scenes from our own footage. So now we are not just sitting at a table saying: 'let's make up situations of what could happen', now there are real life situations that have happened, here, not somewhere else, but here, and we are taking them and turning them into training scenarios. So we can mirror and again we don't use the video for training, although there have been times, but for the

most part, we don't, they are developing scenarios where role players can play the roles."

Where the Managers initially saw BWCs as a tool that could be used for training new recruits who were in field training, Managers began to see them as tools that could be used for in-service training scenario building in addition to field training. Although Managers saw additional utility in BWCs and BWC footage within the context of training, their frames did not change significantly concerning viewing BWCs as a training tool.

Similarly, Managers' view of BWCs being something that protected the department and its officers had also not changed significantly. However, they had found additional utility for BWCs within this context. Initially, BWC footage was seen as a tool that could help protect patrol officers and the department against frivolous complaints.

"I'll get a phone call from somebody that's complaining about how an officer was [acting]. I'll pull up the video just to see if there was any real issue. A lot of times what we're finding is that what we're finding is people don't perceive things as exactly the way as it occurred. So, the benefit of this is, again, that the officer did everything right and it's not jibing with the complaint as the citizen said. I can allow them, the complainant, to look at the video and say 'this is what actually occurred' and a lot of times it is now changing their perception."
[Manager]

According to Managers, the BWC footage was used as a means of fact checking. If a complaint was lodged against an officer by a citizen, Managers could consult the BWC footage and made sure that they saw exactly what occurred and whether the subordinate under question's behavior needed to be addressed. Before the BWCs, it was more challenging to get to the truth of a matter since much fact-checking relied on "he said, she

said” type of information from those people involved. In regards to this feature of BWCs, one Manager said:

“You know the other thing that [BWCs] changed is that I can go back and review video in case I didn’t get to go on a ride-along and basically prove what an officer did; what he or she said they did. And see if they did the right or the wrong thing. Whereas in the past, it was an officer’s word against a citizen or a citizen’s word against an officer’s. Or an officer against another officer. I had to determine who was right. And let’s face it, supervisors don’t always get it right like everybody else, you know? Sometimes you pick the wrong thing whereas if you have the video to review, you can make a more accurate determination. Definitely, as a supervisor, it gives me and other supervisors who review video as well, it gives us a real insight into what happened.”

Over time, Managers saw that BWCs could help protect the department and its officers against lawsuits whether they were lodged by citizens (or other outside groups) or by officers who were terminated in addition to determining the validity of complaints. Different members of the Managers explained that prior to BWCs, Sunnyvale like other departments around the country was confronted with lawsuits that stemmed from accusations of police brutality or other alleged abuses of police power. Depending on the amount of the lawsuit and the body of evidence, police organizations like Sunnyvale sometimes chose to settle lawsuits instead of fighting them in court. This was ultimately more cost effective, even when the department felt that they were not in the wrong. Simply paying out a settlement, in some cases would be less burdensome on the department than fighting lawsuits in court. A Manager explained:

“And yes it can be costly, but the long run is: ‘Ok if it saves me from paying \$400,000 on a lawsuit’, at some point there’s a balance.”

At Sunnyvale, Managers had come to realize that with the video evidence from BWCs they did not have to settle lawsuits and had become able to convince some people to drop lawsuits altogether.

“The benefits as far as civil liability to cover lawsuits is unbelievable.

We’ve had several lawsuits dropped because of the video, the incident did not jibe with how it was described in the lawsuits.” [Manager]

According to Managers, BWC footage helped the department effectively address lawsuits from outside groups, however, they also proved helpful in internal lawsuits. After the department started recording officer training (field training, in-service training, and remedial training) and tagging officers to the footage, they found that BWCs could also protect them in lawsuits from within the department. That is wrongful termination lawsuits from officers who were fired by the department for whatever reasons. A Managers explained the process of building a case against an officer to terminate them:

“If an officer’s not cutting it, you write up a seven-page thing, ‘Officer didn’t do this, officer did this but it was other than this.’ You have this seven pages of that but then the command staff, they fear lawsuits, they fear people making complaints, they fear all the stuff, which is going to happen. But when you say, ‘Alright, all this that I’m writing about this guy can, it’s going to be, he said, she said.’ But when you wear that camera and when you say, ‘Hey this officer isn’t cutting it. This is what we want to do. We want to have him resign or terminate him. This is our evidence. This is on camera, on the Evidence.com thing, this dude just not cutting it. He’s going to get somebody hurt, he’s going to get himself hurt. He’s going to have an accident. This is why on video we don’t think he should still be here as police officer.’ It’s helped us in that way. I know it is what it is. One officer we did, we videotaped all his scenarios and he wasn’t cutting it and we’re like, ‘Alright, man, you need to make a decision. Do you really want to do this or not?’ We wrote up our thing. At the bottom, we wrote in the report that we’re going to give to the states attorney. We wrote WDR to say, ‘This is recorded.’ We wrote during the training that we just did with this officer. Everything was recorded with the body worn camera. They see that and they’re

like, 'Alright, I'm not going to be able to sit there and say he said, she said. This is all on video so maybe I should just do what I need to do, and drop the case.'"

By recording officer training, Managers felt that they were able to build strong cases against officers and also protect the department from lawsuits after an officer was fired.

Closer to the time that BWCs were implemented, Managers saw BWC footage as something that could protect the department and officers against frivolous complaints in that they had the ability to verify the validity of a complainant's claims. Over time, it seemed as if Managers had the same view of BWC footage, however, they saw more utility in BWCs in that they also help protect against lawsuits whether they were from within the department or from the outside.

Considering Managers' frames within the technology in-use domain, we learned that their frames expanded regarding how they viewed the utility of BWCs concerning training and protecting the department, however, their frames did not significantly change over time. This is especially true compared to the significant changes that occurred with the user group over time. User frames shifted from seeing BWCs as a technology that would be used to catch police officers doing wrong to interpreting BWCs as providing several benefits to their daily work that outweigh perceived drawbacks. This will be explored in further detail below.

The Users

Although Users at first, thought that BWCs would be used to catch them making mistakes, they realized over time that BWCs were not being used for that purpose. Instead, with continued interaction with BWCs, they became more concerned with other perceived benefits and drawbacks. Benefits and drawbacks were related to reporting,

investigations, internal investigations, and training practices. In this section, I will discuss these in detail and conclude that Users found that the perceived unanticipated benefits of BWCs far outweighed the drawbacks and like the Managers, found that BWCs were a technology that helped the department.

As I have discussed in the previous section on the technology strategy, at the time of implementation, Users felt that a major motivation behind the implementation of BWCs was to catch officers doing wrong. This was similar to the technology in-use domain, in that Users interpreted BWCs in a way that they were going to be used by Managers to get them in trouble for minor policy violations (e.g. cursing). However, with time, User perceptions changed to no longer seeing BWCs as something that would get them in trouble for minor policy violations. This was the same for technology in-use. Orlikowski and Gash (1994) made an important point in their work, explaining that the different frame domains are not mutually exclusive and that one can expect an overlap between the domains. That is the case between the technology strategy and technology in-use domains within the context of BWCs and Sunnyvale. There was certainly overlap between how groups viewed the motivations behind the implementation (technology strategy) of BWCs and how they thought that BWCs would be used (technology-in-use). In this section, I will briefly recapture the views of Users towards the beginning of implementation before I focus primarily on how User perceptions changed since implementation. I do this to highlight the magnitude of frame change within this domain.

Users at the beginning of implementation did think that BWCs would be used to get them in trouble for minor infractions of the policy, but over time they came to believe that BWCs were not utilized for that reason as this User explained:

“Yea, it felt like you couldn’t be trusted and that you were being watched all the time, you know? They were just going to sit there and charge us for stupid shit. But then...But you know, when you are young and naïve, you don’t really get the big picture, but now as things are starting to erupt in our country. I do not want to work without it now. But at first it was like: ‘aw man, they are just trying to see what we are doing’.”

This User’s quote spoke to both the technology strategy and technology in-use. In the previous section, I concluded that the perceived motivations behind the implementation of BWCs among Users changed from seeing BWCs as a source of trouble to seeing them as something that could be used to protect officers. But this officer also says something that is also related to the technology in-use domain. That is: *“I do not want to work without it now”*. This was a common sentiment among Users and further probing revealed that Users had started to realize different benefits and drawbacks of BWCs as they realized over time that BWCs would not be used to get them in trouble.

First, BWCs helped with the report writing process in that they were able to write more accurate and detailed reports by being able to consult footage to jog their memories. During interviews, 21 Users explained that BWCs benefited report writing by making it possible to have more accurate reports.

“The very first night I ever wore a camera, I noticed a car that was running in the middle of a car lot. More or less, I got into a big fight with this guy, he was highly intoxicated and we get into a fight and I was by myself and the guy got sprayed. Another officer shows up and tasered the guy and he got arrested or whatever. I remember going back that night and looking at that video and noticed that there are so many things that happened that I had no recollection of happening. I guess, when you’re in the moment, you’re in the moment. That case

ended up going to court in two counties. One was for the criminal case and the other was for a civil case; like a custody battle. In both court cases, the evidence found on my camera, in my opinion, was sort of the deciding factor as to whether this guy was guilty or whether he was to lose custody of his kids. I also noticed that people were sort of in awe that what was recorded in the video was actually what I had written in my report, showing that cops do tell the truth, you know?"
[User]

This User's quote addressed to the importance of having accurate reports. As I have previously explained, BWC footage could be used to hold officers accountable for the accuracy of their reports in court. However, Users had noticed that with continued use of BWCs footage in their reports that they had more perceived success in court since the footage helped jog their memories and allowed them to write more detailed and accurate reports.

Although two Users did mention that with the continued use of BWCs, that they had noticed themselves become somewhat more forgetful, BWCs helped Users jog their memory when they were writing reports. Of the 29 Users that were interviewed, 17 of them in some way mentioned that a benefit of BWCs was that the footage helped them jog their memories when they were writing reports. This was useful in all cases but was particularly useful in cases that included multiple offenses, assaults, and use-of-force. In terms of use-of-force cases, officers mentioned (like the quote above) that when they were in the moment during a tussle with someone, it was often difficult to remember exactly what happened, in what sequence it happened, and how long it actually took. This was also the case with cases where assaults or sexual assault were in progress as officers arrived at scenes.

"For instance, the other night we arrived on a rape in progress. Like an actual rape, the girl was totally drunk and half passed out. And when we showed

up, the guy was still inside her, raping her. We caught that all on video. We were able to write long, detailed reports about everything. And that, with the video, there is no way any defense lawyer is going to beat that.” [User]

When Users found themselves in a situation where multiple offenses occurred, like a high-speed chase, it was difficult to recollect exactly what happened and in what order different events occurred, which in the opinion of the officers gave defense attorneys more opportunities to beat their cases in court. With the BWC footage, Users tended to feel they could effectively jog their memories and wrote more accurate reports that could stand the challenges of defense lawyers. This is consistent with existing research on BWCs that have shown that BWC footage can be helpful in the courtroom by serving as a source of stronger evidence than testimony alone (Goodall, 2007; White, 2014; Lum et al., 2015).

Secondly, Users explained that BWCs had also provided two benefits to the way they conducted investigations. That is, BWC footage provided more detailed depictions of crime scenes and could help officers follow-up on leads. Users explained that they used BWC footage sometimes to get more pristine depictions of a crime scene. Most of the time patrol officers were usually the first people to arrive at a crime scene. Prior to the acquisition of BWCs, investigators had to rely more on a report from patrol officers, however, with BWCs, they felt that they could pull the BWC footage to look at the scene before emergency responders, forensics, and other police officers arrived. This User explained:

“Before [BWCs], we relied on, and we still use digital cameras. But also, we can use the [BWCs] when an officer responds initially to the scene. Because it’s not until the crime scene techs, who usually use the digital cameras; they don’t come ‘till later. Usually, the detectives will be at the crime scene techs there

and we really don't do much except survey the scene until they take pictures, process the scene, and so on; before we actually enter so it's not contaminated. But for the first responding officers, they don't know what they're getting into. They enter the house, business, whatever domain they're going into or area. They are the ones that find if it's serious or not. They are the ones that are like: 'What are we looking? We're looking pretty serious. Someone had been murdered. Is it a rape scene? A first-degree assault, domestic?' They don't know. They're the first ones and they're not worried about contaminating the scene. They just need to protect whatever person who is being violated or; I'm trying to think the correct word. But they're the first responders basically. You're getting raw footage of the officer walking into the scene, so you have the first person point of view of how the scene is before everything calms down because things might be moved around later. They execute an arrest. Things might be moved. If someone is left at the residence for whatever reason like, 'Where is that piece of evidence that was seen on the [BWCs]?' They're not there anymore.' It helps us a bit to kind of see the scene at its natural state before any interruption."

Similarly, Users explained that they could use BWC footage to follow-up on leads. Although only 6 Users (consisting of both detectives and patrol officers) mentioned that they used BWC footage to follow-up on leads, to these Users BWC footage had been very helpful in conducting their investigations. One User explained during a ride-along that while talking to another officer about a break-in and entry and theft that had occurred at a local hardware store. After hearing the description of the person they were looking for and the description of the stolen merchandise, he remembered that he had pulled a person over earlier that day fitting the description. He pulled his footage and saw the merchandise that was stolen right in the back seat of the person's car. They were able to track the guy down, and with the footage, search, arrest, and convict the person.

Users told that footage was not relevant to all investigations because officers with BWCs were not always present to record valuable information. However, at Sunnyvale, inquiring about the applicability and adequacy of BWC footage had become a routine

activity among Users. In other words, when a new investigation opened up, some Users tended to ask about the footage towards the beginning of the investigations process with the hopes of finding useful information, whether it be to follow-up on a lead or to see a pristine view of a crime scene.

Third, Users explained that BWC footage had become an instrumental tool in handling citizen complaints in that they helped expedite the complaint investigation process. Thirteen Users explained that BWC footage made it possible to get to the truth of a matter faster, which in turn reduced the amount of stress that the Users under investigation felt. The way that complaint investigations worked at Sunnyvale was that once a citizen came into the station to file a complaint, they were typically greeted by a sergeant who would hear their complaint and try to explain the officer under question's behavior to them. If for whatever, the citizen still wanted to follow through with the complaint, they would fill out paperwork and an internal investigation would be opened by an internal affairs (IA) detective. At that point, a complaint received a case number and the investigation started.

Users explained that once a complaint was filed and received a case number, they found so much utility in the BWC footage that their first step in the investigation process became consulting BWC footage. Before the introduction of BWCs, everyone involved in the case would first be interviewed before the investigation continued. With the addition of BWCs, Users had changed the way they investigated complaints by consulting the footage first to see if they could find the information they needed to make a judgment on whether the complaint could be substantiated or not. In the opinions of

Users, the footage captured the entire citizen encounter and became the most important source of evidence resulting in investigators no longer having to solely rely on witness testimony. A User explained his experiences with BWC footage during complaint investigations:

“We have worked on a couple of complaints where a citizen has written out a complaint form out. I’ve read it. I’m like, ‘okay, that’s, not good’. But then you watch the video and it’s like ‘that’s kind of not what happened’. You know? And for me, in my position, that’s really good. [BWC footage] is really good to have, that’s nice to have. I like to have that ability to sit and watch [the footage] and it’s actually started to become one of the first things I do in a case. If I know that that officer was wearing a [BWC], I’m going straight to the video to watch it and it’s definitely, definitely, definitely beneficial.”

This User’s quote is important because he explained an important facet of citizen interactions and that is, much like police officers, citizens did not always recall events as they actually occurred. The footage made it possible for Users to gain a more objective and complete understanding of what happened during interactions. In the minds of 19 of 29 Users, BWC benefited complaint investigations because they afforded a better alternative to testimony based on a person’s ability to recall an event.

In addition to Users’ sense that BWC footage offered a more comprehensive and objective account of what happened during citizen encounters than what a citizen or officer might recall from memory, Users felt that BWC footage had also helped expedite the internal investigations process. This, in turn, reduced the amount of stress that Users felt when they were the subject of an internal investigation. A process that used to take about three weeks, had been cut down to 24-48 hours.

“Well, you know, you are going to get complaints filed against you so that’s just part of the job I guess. So when you get a complaint, you know your sergeant or whoever can just go to the footage and show it to the person who

complains and it clears it up right there. Or if it goes to IA or whatever, it just clears it up a lot faster.” [User]

Another user explained:

“Before, you know, you would get a complaint and it would take like three weeks to get it sorted out. Even when you know you didn’t do anything wrong, it still sucks knowing that is over your head. Now with the cameras, it will take like two days before the investigation is finished and most of the time, complaints are not sustained.”

Users like the one above explained that despite knowing that they did nothing wrong during an encounter that drew a complaint, there was a lot more uncertainty during internal investigations prior to the implementation of BWCs. When it was more difficult for investigators to get to the bottom of what happened during encounters, it took more time and caused more stress for the Users who were the subjects of those investigations. Therefore, Users perceived that not only did BWCs provide more accuracy, but it also lessened the amount of time it took investigators to get a grasp on the facts, both of which are important benefits to Users.

Lastly, concerning perceived benefits, Users felt that BWC footage could be used to help them self-train. Users explained that when they had to review footage that involved them for whatever reason (e.g. writing a report), they sometimes found opportunities to judge the effectiveness of their own behavior and used to footage as a learning tool. A User explained.

“...when you do a use-of-force report or something like that, you always want to go through [the footage] and say, ‘hey, this is exactly what happened’, because in the situation, in the heat of the moment, you’re going to make decisions based on what you’re thinking and what you’re perceiving at that moment. However, when you’re sitting down, you’re safe, you’re not going to be harmed in any way, you’re not in fear for your life in any way, you’re sitting in front of a computer screen, everything’s going slower,

you can kind of review it and say 'OK, this is what's happening from this perspective'. 'This is why I did this', and 'maybe I could have done this better in this scenario', or maybe 'I did exactly the right thing', you know? But you can learn from it yourself"

Users experiences with BWC footage led them to see BWCs and BWC footage as a means of self-training; 10 of 29 mentioned that they use or at some point have used BWC footage to review their own behavior with the goal of self-improvement. Below a K9 officer explained how he used footage to self-train:

"When I first got into K9, my first track of a suspect was completely recorded so I could go back and look at what I was doing. You know and now I can watch it and watch my dog's behavior and learn from that. Spending a year in training with my dog, I learned a lot about him. But I still learn about his behaviors from watching the footage. I can go back and see when he is in odor and when he is out odor. This way I can help myself and help him...It has helped out in so many ways."

In the quote above the User who also had a K9, explained that he used the footage to improve his own behavior but that he also used it to gain a detailed understanding of how his dog reacted to odors in the field. Prior to BWCs, when officers accessed their own behavior, they had to operate on their recollections of what they did. With the footage, they had the ability to replay, rewind, and pause the video that they could study and access their performance and improve upon it if they so wished.

In sum, there were several perceived benefits that Users had come to realize since BWCs were implemented at Sunnyvale PD. In their minds, BWCs improved reporting, external investigations, complaints investigations, and provided an opportunity for them to self-train, however, with these benefits also came some perceived drawbacks. In the minds of Users, reporting benefited from BWCs in that footage helped them jog their memory and provide more accurate reports. External investigations benefited because

BWC footage offered pristine views of crime scenes and helped some Users follow-up on leads. Complaint investigations benefited from BWCs because the footage was a much better source of evidence and helped expedite investigations. Lastly, Users felt that BWC footage was a tool that could be used to self-train and improve their performance.

Overall, Users embraced these benefits and considered them to far outweigh the costs of implementing BWCs, but this is not to suggest there were no drawbacks. Over time, officers learned that courts could become over-reliant on BWC footage which put both their credibility as police officers in question, could cause a resource strain on the department, and jeopardized the integrity of BWC footage.

Users explained that despite being able to have more success in court with BWC footage and stronger, more detailed reports; they felt as though the members of the courtroom workgroup had become over-reliant on BWC footage to the point where workgroup members had become visibly upset when officers did not have footage for some reason. Users mentioned that despite having very detailed and accurate reports, defense attorneys and prosecutors were more concerned about the video. This was even the case when their reports were based on BWC video. In the minds of some of the Users at Sunnyvale, BWC footage was a great evidence “tool”, but some members of the courtroom workgroups were using the footage as a “crutch”. This had two perceived negative implications that Users described. First, they felt as though their credibility as police officers had been put in question. Second, over-reliance on footage caused a perceived resource strain on Users and the department.

In terms of the credibility issue, when Users showed up in court without BWC video, members of the courtroom work group they were immediately questioned about why they did not have footage.

“I can say that [attorneys] do rely on it a lot more. You know because all the defense attorneys, everybody knows that we have [BWCs] and you know they... you can match your report but they want to see the video footage.”[User]

Sometimes when Users did not bring the footage with them, or perhaps the footage was interrupted because a wire snapped or something broke, their credibility was immediately put under question. Some Users had also mentioned that cases have been thrown out when there was no footage available despite there being a report. Of the 29 Users who participated in the study, 8 mentioned that they felt as though their credibility had been but under question with the acquisition of BWCs.

Users also explained that the court system that handled cases in their jurisdiction must also purchase Evidence.com. This is because the Evidence.com allowed for inter-agency sharing. This means that video that was tagged to an officer on Evidence.com could also be shared with an entity outside of the police department. At the time of data collection, Users had to burn copies of the footage onto DVDs or CDs.

“The officer will say I need three copies of this and two copies of that and depending on who is working as shift admin that day, they will go and access the footage and make copies and send it to the officer. There is a way to digitally share everything with like the rest of the county, but we are the only [agency] that is using Evidence.com, so we still need to produce DVDs and CDs, but if the rest of the county would use Evidence.com, we could easily share the footage digitally without having to burn copies. For the time being, we are limited more than what our system is capable of.” [User]

Taking footage to court was not mandated by Sunnyvale policy. Instead, Users could choose to take footage to court with them if they thought it would help their case.

However, as Users perceived the increased demand for BWC footage from courtroom workgroups, they felt compelled to bring more footage to court. Users saw this is something that could be somewhat time and resource consuming since DVD and CD costs have increased with more video requests. Additionally, Users also felt that there was potential for the integrity of the footage to be put in question. Once a hard copy of the footage was made, there was no longer that control over the footage that was there when it was only housed on Evidence.com. Although this has not been put in question by defense lawyers, Users feared that this may happen in the future, which could have serious implications on the utility of BWC footage in court. That is, that footage burned to a DVD or CD by the police would no longer be considered as legitimate evidence.

Orlikowski and Gash (1994) explained that technological frames can reveal the “social nature of technology” that can highlight both intended and unintended consequences of a technology, in this case, these perceived drawbacks that Users discussed with me, highlighted an important unintended consequence that is related to BWCs. That is, BWCs undermined the utility of traditional reports by creating a new set of expectations in the courtroom that there will be video footage. At the same time, the processes involving the transference of footage from law enforcement to the courts could also have serious impacts on the integrity and utility of BWCs footage and become a resource constraint. Lum et al. (2015) explained that future research should consider how BWCs impact the courts, and given my findings suggest this is an important area for future research.

In this section, I have explained that when it came to the technology in-use, Users' interpretations of BWCs changed from seeing them as something that would be used to get them in trouble, to a technology that has multiple uses with a different set of benefits and drawbacks to their daily work. When I looked at the responses of the 29 Users who were interviewed, 12 officers indicated disadvantages related to BWCs, however, out of these 12, 11 officers mentioned that benefits outweighed drawbacks. Additionally, there seemed to be far more consensus among the benefits than the drawbacks. That is, with each benefit that was found, a majority of the 29 Users shared those perceptions. However, each perception of a drawback only found consensus among a minority of Users. Thus, it seemed as if there is more consensus on the benefits than the drawbacks and that Users over time, saw that BWCs were a technology that benefited the department and its officers.

Conclusion

Considering the frames of Users and Managers across the three domains, two important take-away points stand out: First, there were differences between groups in some of the domains based on their rank in the department and interactions with BWCs, however, these changes were not a source of conflict between the groups. This was most clearly seen in the nature of technology domain. Second, over time as Users built experience with BWCs, they came to learn that BWC were not going to be used as a “gotcha” mechanism to get them in trouble for minor infractions of departmental policies. Instead, they began to learn that BWCs delivered unanticipated benefits and drawbacks,

where the benefits outweighed those disadvantages. This section will address these two take-away points in further detail.

One thing that stands out about how the groups framed BWCs within the nature of technology domain is that the different groups' frames were different at the time of data collection, but at the same time were not in conflict with each other. While Managers were more concerned about the cost and capabilities of BWCs, users' lied with the ease-of-use of the cameras. Given that the two groups seemed focused on two separate aspects of the nature of BWCs, their frames were not in conflict with each other. While at first glance, it might look like these frames were incongruent, there seems to be reason to believe that the opposite was true. Orlikowski and Gash (1994) explained that technological frames do not have to be identical or necessarily similar to be considered congruent. Instead, they assert that congruence is manifested in the "alignment" of frames. That seemed to be the case within the nature of technology domain relating to the frames of Managers and Users.

Although the content (e.g. ease-of-use and value) of the frames that they were concerned about were not the same, both groups came to have positive views of BWCs within the context of this domain by the time of data collection. The Managers had a positive outlook on the devices that they selected from the beginning of implementation in that they were "wowed" by the capabilities of the Axon Flex devices at the beginning of implementation despite their financial cost. Users were initially worried about the ease-of-use of the cameras but quickly learned that they were rather "cop-proof" and that the training they received on how to use them was sufficient. Therefore, Manager and

User frames were aligned in that they both had positive perceptions of BWCs in this domain.

Given the initial fears of Users about the functionality of BWCs, Users may have been less receptive to BWCs if Managers had picked a product that was perhaps cheaper and harder to use. This could likely have resulted in incongruent frames and noncompliance, abuse or abandonment of BWCs by the Users as Chan (2001) explains that the technical aspects of a technology are important to their successful implementation. At Sunnyvale, Users learned that BWCs were rather straightforward and actively used their BWCs. Therefore, the two groups did not have to be concerned about the same aspects of the nature of BWCs for them to be integrated into day-to-day police work, it seemed like merely viewing the nature of BWCs in a positive light was enough to establish frame congruence between the groups. Therefore, this finding supports Orlikowski and Gash's (1994) assertion that frames do not have to be similar to be congruent and that alignment can be found in *how* dissimilar frame content is viewed by relevant social groups.

A second point that stands out is in contrast with what Orlikowski and Gash (1994) claimed about technological frames regarding the idea that first impressions last when frames are initially formed. Orlikowski and Gash (1994) and Tyre and Orlikowski (1994) explained that interpretations likely "congeal" early in the adoption process of a new technology. In other words, our initial interactions with a technology will have stronger impacts on the framing process than subsequent ones. If initial interactions reinforce interpretations that are unfavorable at first, it is likely that interpretations will

remain negative over time (Tyre and Orlikowski, 1994). The same goes with positive interpretations and interactions towards the introduction of a new technology. While this was the case with Managers in that their frames stayed rather steady over time and while Users' frames changed rather quickly after implementation within the context of nature of technology domain, their frames within the other domains did not. These changed significantly but required more time and interaction.

In terms of the Users' technology strategy and technology in-use frame domains, change occurred that was more gradual and more significant compared to the change in the nature domain. At the time of implementation, Users were far more apprehensive and held negative views of the technology. Users felt that the motivations behind the implementation of BWCs were for Managers to get them in trouble for minor infractions of departmental policy. Therefore, they felt that BWCs would be used to regularly watch them as they worked, especially since the policy mandated them to always have the devices on and record every interaction with citizens. However, gradually over time, Users realized that BWCs were not implemented to get them in trouble, and were instead meant to help them battle against frivolous complaints. As they continued to interact with the BWCs, the Users started to realize that there were a complete set of unanticipated benefits (reporting, internal and external investigations, and training) that outweighed any drawbacks.

This stands in contrast to the assertions of Orlikowski and Gash (1994) and Orlikowski and Tyre (1994), who claimed that initial impressions of technology tend to last or congeal, making frames more rigid over time. The importance of this finding is

that it allows for a more optimistic outlook about the framing process. Initial impressions of a technology may not necessarily predict how certain groups may feel over time. If views are particularly negative regarding a technology that with continued experience may prompt eventual change toward more positive outlooks. At Sunnyvale, it seemed like continued interaction with BWCs made it possible for Users to understand the motivations behind their implementation and to see unanticipated benefits in them.

Ultimately, there are two things that I want the reader to take away from this chapter: 1. groups within a police organization *can* have different expectations and interactions about a technology for them to be congruent. 2. perceptions of BWCs *can* be changed significantly over time with sustained interaction, but that depends on the quality of continued interaction with the technology. BWC literature has pointed out that there are more benefits to these devices than only holding officers accountable for their actions (Hayes and Ericson, 2012; White, 2014). In this light, at Sunnyvale, Managers were able to get Users to see those benefits with the “soft” implementation strategy that was more centered around protecting officers rather than catching them out. This in time, allowed Users to become more optimistic about BWCs being a part of their work.

CHAPTER 8: DISCUSSION AND CONCLUSION

In this last chapter of my dissertation, I provide a brief summary of my findings in relation to the broader literature on technological change and police organizations. I then provide a detailed discussion of how my findings from Sunnyvale fit with existing research on BWCs, address the limitations of this study, recommend some avenues for future research and present my final thoughts.

This study is one of the first research attempts to provide an in-depth process examination of the implementation of body-worn cameras at a single police agency. Ultimately, it sought to answer the following two related questions: “*How, if at all, did the implementation of body-worn cameras change existing organizational structures and practices?*” and “*What were police perceptions of the use of body-worn cameras and to what extent were there similarities or differences in these perceptions across groups within the organization?*” This approach revealed how the implementation of BWCs at Sunnyvale “moved” the organization on certain dimensions and how attitudes between groups differed and changed over time.

Koper et al. (2015) explain that the impacts of technological change are often mitigated by the use of new technology per traditional police practices, and this seemed to be the case with BWCs at Sunnyvale. Although BWCs afforded an opportunity for structures and practices to be significantly changed at Sunnyvale, despite a few notable

changes to certain structures and practices, their impacts were rather uneven and not transformative.

BWCs had the most profound effect on officers' sense of accountability. In Sunnyvale, with the advent of BWCs, police behavior and decisions that had traditionally been unseen could potentially be reviewed by others (public, courts, management). This increased officers' general sense of accountability and was associated with some modest changes in structures and practices like reporting, discretion, training, and interactions with the public. BWCs had made these aspects of organizational life more visible to others and, therefore, increased the scope of accountability. However, BWCs had not had the kind of profound effects on organizational structures and practices that proponents of BWCs envision given BWCs' ability to fully record an officer's behavior, especially in encounters with citizens. Since footage can be reviewed and evaluated by supervisors on a systematic basis, BWCs offer an opportunity to increase the intensity with which officers are held accountable for their work (which is more in-line with how proponents would imagine their use). However, this would be dependent on if practitioners intend to use them for that purpose. Manning (1992) and other scholars have said that technological change is not always deterministic but can instead be on-going and emergent. In other words, when new technologies are adopted, they are not always used as they were meant to be used. Therefore, the adoption of new technologies can impact certain aspects of organizations more than others (Manning, 1992; Chan, 2007).

At Sunnyvale, it seemed as if the rather uneven impacts of BWCs on structures and practices could be explained by how they were implemented to limit disruptions to how the department functioned. This showed in three ways: how and to whom the access to the footage was granted, how the policy mandated the review of footage and for what purposes, and how the footage was actually reviewed. First-line supervisors were not initially granted access to BWC footage, yet even if they wanted to look proactively at the footage, they had the ability to request access to footage from training administrators. Furthermore, when they did receive “admin” permission supervisors were not inclined to start proactively reviewing footage. The BWC policy mandated that proactive review of footage be delegated to training administrators and command staff and mostly involved searching for safety and training material and not focusing on officer performance and/or conduct. Moreover, review of footage was rather informal or in response to citizen complaints. Command staff did not find the proactive review to be a priority compared to their other duties, and they did not want to get officers in trouble for minor infractions while training administrators responded informally to what stood out in the footage they reviewed. Supervisors primarily reviewed footage when a complaint came in to verify the allegations of the complainant.

My findings on technological frames provide a more in-depth appreciation for the rather limited effects of BWCs on organizational structures and practices. Koper et al. (2015) assert that the impact of a technology and how it is used, often depends on additional organizational changes designed to support the implementation of the new technology. Desired outcomes with a technology can be more difficult to accomplish if

the organization an organization does not make the necessary changes to facilitate its proper use. Promoting the necessary organizational change to accommodate a new technology is typically dependent on how management sets the tone during implementation (Koper et al., 2015, p. 30). At Sunnyvale, Managers expressed little interest in using BWCs as a means to increase the intensity by which officers were held accountable for their behavior. Using BWCs at Sunnyvale, to catch officers making mistakes or committing minor policy infractions would have likely created a culture of distrust between the Users and Managers and undermined existing relationships between members of these groups – the kinds of relationships that are necessary for any organization to function smoothly (Koper et al., 2015). In addition, watching hours of body-worn camera footage of individual officers would be tremendously time consuming. In the absence of organizational efforts to build in “slack time” for this endeavor, Managers and first-line supervisors are unlikely to have the opportunity to carefully monitor the actions of every officer.

Research has shown that when patrol officers have negative views of certain technologies that pose a perceived threat to them (by limiting their discretion or increasing oversight), they can become resistant to their use (Manning, 1992; Chan et al., 2011; Koper et al., 2015). Users at Sunnyvale were initially anxious about how BWCs would possibly disrupt their routines by being used as a “gotcha mechanism” by Managers to catch them doing wrong. If BWCs had been used in a way that increased the intensity with which officers were held accountable for their performance, it could likely have reinforced those initial, negative and anxious frames of the Users. However,

Managers' intentions behind implementing BWCs were to adopt instead a valuable technology that would be used for training and protecting the department from frivolous complaints.

Over time, as Users realized that BWCs would not be used to get them in trouble, their apprehension gave way to acceptance. With time continued interaction, they came to learn that BWCs offered unanticipated benefits to their daily work that outweighed any other perceived drawbacks.

How do these findings fit within, or help explain existing literature on BWCs? Existing research on BWCs has primarily focused on police perceptions and outcomes. Perceptions focused research has shown that police officers tend to have relatively positive views of BWCs (Jennings et al., 2014; Ellis et al., 2015; Katz et al., 2015; Owens et al., 2015; Ready and Young, 2015), while outcomes focused research shows that BWCs can help reduce citizen complaints (Goodall, 2007; Farrar, 2013; Katz et al., 2014; Ariel et al., 2015), reduce the time it takes to resolve complaints (ODS Consulting, 2011; Katz et al., 2014), reduce use-of-force (Farrar, 2013; Ariel et al., 2015), strengthen evidence collection (Goodall, 2007), impact citizen behavior (Goodall, 2007; Farrar, 2013), and increase arrest and citation activity (Katz et al., 2015; Ready and Young, 2015).

Research showing that police officers tend to have positive views of BWCs has explained that officers' views became increasingly positive as they realized that BWCs were fairly easy-to-use and that the use of BWCs was helpful in certain aspects of their daily work (Jennings et al., 2014; Ellis et al., 2015; Katz et al., 2015; Owens et al., 2015;

Ready and Young, 2015). My findings at Sunnyvale support existing knowledge on police perceptions of BWCs in that officers at Sunnyvale had positive views of BWCs within all three of Orlikowski and Gash's (1994) domains at the time of data collection. Officers at Sunnyvale also found that BWCs were easy-to-use and saw much practical utility in BWCs. However, my findings also add to perceptions research by showing that relevant social groups, while sharing generally positive views about BWCs, thought about BWCs differently. Managers saw BWCs as a valuable technology that would protect the department from complaints and lawsuits and help with various types of training. Users thought that BWCs were an easy-to-use tool that helped protect them from complaints could be helpful in many other aspects of their daily work. By investigating how different relevant social groups viewed BWCs instead of cross-referencing by demographic data, only focusing on patrol officers, or looking at the police as one group, my findings suggest that an individual's hierarchy and function can influence how they think about BWCs.

BWC research has also focused on different outcomes, and although my research focused more on the implementation process, it does support and helps understand certain aspects of this branch of existing literature. Studies have shown that BWCs can reduce the amount of complaints filed against officers and lessen the amount of time it takes to resolve them (Goodall, 2007; ODS Consulting, 2011; Farrar, 2013; Katz et al., 2014; Ariel et al., 2015). My findings at Sunnyvale support these findings as I found a stark reduction in citizen complaints, and officers perceived that internal complaint

investigation times had been significantly reduced. At the same time, my research adds additional insights to what we know about BWCs and citizen complaints.

Official complaint data can be used as a means to measure how satisfied the community is with police service (Ariel et al., 2015), although there are many limitations to aggregated civilian complaint data as indicators of police misconduct in interactions with citizens (National Research Council 2004: 161). Since BWCs bring a certain level of self-awareness to citizen encounters, officers (and citizens) may change their behavior to become more professional knowing that they are (or can be) being watched (Farrar, 2013; Ariel et al., 2015). If the police are acting in a more professional manner, there would be less dissatisfied citizens to lodge complaints against officers. The existing research on the relationship between complaints and BWCs have all depended on examining official complaint data (i.e. data generated by the police organization when a formal complaint has been lodged). Studies have shown that BWCs decrease the amount of official complaints lodged against an organization (Goodall, 2007; Farrar, 2013; Katz et al., 2014; Ariel et al., 2015), however, my findings gave some insights into the complaint process that these studies have not been able to do.

My findings showed that the supervisors reviewed or discussed BWC footage with citizens before an official complaint was put on paper. All supervisors said that they felt as though the amount of citizens coming into the department to lodge a complaint had not decreased, but the decrease had come after they had either discussed or reviewed the footage with the citizen. It was, therefore, uncertain whether the reduction in citizen complaints were related to increased police professionalism, increased public satisfaction,

and/or other factors related to the interaction between the supervisors and citizens. My research shows a need for attention to be paid to how the complaint process works at each police department under study if we truly want to understand the seemingly complex relationship between complaints and BWCs. Walker (2001), for example, provides examples of police departments who violate their own complaint policies by “thwarting citizens’ efforts to file complaints” (National Research Council 2004: 161).

Research has also shown that BWCs can reduce the amount of time it takes to conduct and conclude a complaint investigation (ODS Consulting, 2011; Katz et al., 2014). Although, I did not set out to measure how long it took to resolve complaints at Sunnyvale, all officers at Sunnyvale reported that BWCs had significantly decreased the time it took to resolve complaints. However, my study also found that the ability to resolve complaints faster, significantly contributed to forming positive perceptions about BWCs among officers at Sunnyvale. Officers felt that having a complaint investigation open against them was extremely stressful regardless of how they anticipated the outcomes. Being able to resolve complaints significantly faster, according to patrol officers, reduced a lot of stress. Given these findings, this outcome can serve as an important selling point for BWCs when management are trying to gain buy-in from patrol officers before, or during implementation.

While some research has shown that BWCs can help reduce officer use-of-force (Farrar, 2013; Ariel et al., 2015), other studies have found that BWCs did not seem to impact the amount of force officers used (Edmonton Police service, 2015; Ariel et al., 2016). While this is still a rather understudied aspect of BWC outcomes, more research

will likely shed some light on exactly how BWCs impact officer use-of-force.

Nonetheless, the theory behind how officers use-of-force would be impacted is the same as how citizen complaints would be impacted: increased self-awareness that is accompanied by BWCs could cause officers to more carefully consider the amount of force they use. My findings also speak to the mixed findings on BWCs' impacts on use-of-force in two ways: some officers explained that they used case law instead of using force and some officers second-guessed themselves when deciding on whether to use force.

Given that only four officers explained that they sometimes used their knowledge of case law instead of force to solicit compliance from citizens and that only 11 officers said that they second-guessed themselves when using their discretion, it seemed as if BWCs impacts on use-of-force at Sunnyvale were rather uneven. Since my sample was so small, I was not able to find what factors were involved in how officers' use-of-force was impacted by BWCs. However, one way to interpret these results within the context of existing work on use-of-force, is that other factors relating to either officers, citizens, or situations may have impacted how BWCs affected officer use-of-force. Therefore, my findings provide a possible explanation (that would require testing by future research) for the conflicting findings on the relationship between BWCs and use-of-force. The impact of BWCs on use-of-force might be uneven since other factors might either increase or mitigate how much force is used by each officer. In addition to low incidence rates of officer use-of-force, conflicting findings on this relationship can be explained by the uneven impacts of BWCs on individual officers' behavior.

BWCs have also been found to improve evidence collection and can help reduce the amount of time it takes to establish guilt in court (Goodall, 2007). Findings from Sunnyvale provide some support for this claim in that officers claimed to have used BWCs to write more detailed reports and reported to have had more success in court with BWCs footage. Katz et al. (2015) found that as officers used BWCs, they became more skeptical about how easy it would be to work with prosecutors. My findings help further explain this finding, in that officers felt that BWCs had helped bolster the strength of evidence, but it had also caused their credibility to be put in question when they went to court without footage. They felt that members of the courtroom workgroup had become over-reliant on the footage as a source of evidence and sometimes became visibly upset and questioned their credibility when the officers did not have the footage to accompany their reports. This insight is important because it shows that although officers think that BWC footage can be a source of stronger evidence, this positive perception can be mitigated by how the courtroom workgroup use or rely on the footage. In other words, police officer perceptions of BWCs may not only depend on how they are used within the context of policing.

Research on how BWCs impact police-citizen interactions have also found that the self-awareness that BWCs bring to these encounters do not just impact officer behavior but can also have a “civilizing effect” on citizens (Goodall, 2007; Farrar, 2013). When citizens find out that they are being recorded, they may choose to become more compliant and less disagreeable. My research supports these findings but also adds additional insights that deserve scholarly attention in future studies. All officers explained

that BWCs have a “calming effect” on citizens that can occur in one of two ways: by having a civilizing impact on citizens (which has been found in existing literature) and/or by reassuring citizens that their rights are being protected in the presence of BWCs. The reassuring effect had not been discussed in existing literature, and my findings have indicated that the reassuring effect is an additional aspect of the overall calming effect that BWCs can have on citizens.

At the same time, my findings suggest that BWCs do not have a calming or reassuring effect on all citizens. Officers at Sunnyvale explained that many citizens were not impacted by the presence of BWCs. This was especially true for citizens who were already belligerent, intoxicated, suffered from mental illness, or had for some reason become offended by the behavior of the officer. These findings are important because they shed light on the fact that BWCs can have an uneven impact on citizen behavior, which deserve further research attention, but also can help explain recent result from a study by Ariel et al. (2016) who found that BWCs increased the likelihood of officers being assaulted by citizens. Examining which factors are instrumental in mitigating or increasing the impact of BWCs on citizen behavior can help deepen our understanding of how BWCs affect police-citizen interactions.

Lastly, existing research has shown that BWCs have increased both citation and arrest activity among patrol officers (Katz et al., 2015; Ready and Young, 2015).

Although I did not study official arrest and citation data at Sunnyvale and cannot lend support or lay claims against these findings, my research can provide some support for the explanation that Ready and Young (2015) gave for finding increased citation activity.

They explained that officers with cameras wrote significantly more citations since they feared being reprimanded for not writing citations (p. 454). The officers at Sunnyvale, who thought that their discretion had been impacted by BWCs by becoming more legalistic, explained that they also felt uncomfortable letting people off with written or verbal warnings. However, my findings cannot help explain or provide any support for the findings of Katz et al. (2015), who found that arrest activity had increased with BWCs since Sunnyvale officers explained that BWCs had only impacted their behavior within the context of petty offenses.

Limitations

As with all research, there were limitations to this study. An obvious limitation of this study was that it was only conducted at one site, which means that my findings cannot be generalized. The chances that one police organization that allowed a study of the implementation of body-worn cameras is representative of all police organizations in its own state, let alone the United States, are rather small. To some degree, you can argue that BWCs are being discussed at a level that is more relevant to larger police agencies. This is especially true since the events that led to the call for BWCs mostly occurred at relatively large police agencies. However, this study does offer a corrective to the tendency of researchers to focus mostly on BWCs in large police departments, when most police departments in the U.S. are smaller like Sunnyvale.

Although the findings of this study cannot and should not be used as a means to predict what other police organizations might experience in their efforts to implement BWCs, my findings do give implementers helpful insights into the implementation

process and beyond. Hopefully, police agencies can use the findings of this study in a similar fashion as “product review”. These findings could serve as a tool for what implementers can expect and look out for. An example is that practitioners can attempt to establish buy-in from their officers by discussing the benefits that BWCs can offer for patrol officers regarding reporting, citizen complaints, and success in court. Similarly, implementers can frame BWCs in a way that they protect officers instead of getting them in trouble for minor conduct policy infractions.

Another limitation that deserves attentions is that during ride-alongs, patrol officers may have been affected by my presence in the way they behaved. It would be hard to know whether my presence affected the extent to which patrol officers acted according to policy and/or used their discretion, knowing that they were with a researcher (who is a member of the public). Mastrofski, Parks, Reiss, Worden, DeJong, Snipes, and Terrill (1998) found, however, that when proper precautions were taken, this limitation of observations could be overcome. Furthermore, Mastrofski et al. (1998), explained that observational data could be particularly useful when used with other forms of data. That is why semi-structured interviews and a survey were employed in addition to observations at Sunnyvale. Additionally, much time and effort were put into ensuring that officers were comfortable with my presence. Lastly, I took precautions to make note of when it seemed like an officer’s behavior changed due to my presence during ride-alongs, and was a rare occurrence.

Similarly, while I conducted semi-structured interviews with subjects, social desirability may have been a factor in determining how valid interview data was. It may

have been that interviewees held back on what they decided to share during interviews. This could have especially been true for negative information about BWCs, BWC footage, or how the organization had been affected by their implementation. Interviewing members of different ranks and relevant social groups within the organization, in this case, did reduce some of this risk. Furthermore, some of the questions that were posed during interview probed the interviewees to discuss their perceptions of the experiences of other individuals within the organization. Lastly, survey data was anonymous, and patrol officer respondents may have been more likely to be truthful when answering survey questions since that that did not require them to speak directly to someone that is not a part of the organization.

Another issue that deserves attention is the ability of officers to recall events correctly. Much of the study's data collection was centered on asking officers to recall their thoughts and experiences during implementation through to the time of data collection (this was especially true for learning about technological frames). There were some examples of officers having trouble with the temporal order of events when they were asked to recall about the implementation process. Some officers were sure that the implementation of BWCs began more than 3.5 years prior to data collection while others recalled that implementation began after that time. Memory-loss certainly played a role in the accounts that officers gave. However, some steps were taken to mitigate the effects of memory loss on the validity of the data.

In order to address possible memory lapse, subjects were asked for examples of events where the behavior and/or perceptions they were describing was relevant.

Additionally, groups across the organization that were involved with BWCs were interviewed, which likely resulted in a relatively accurate picture of what happened during the implementation process and made-up for the few participants that were not employed during the time of implementation or were further removed from the process. Furthermore, departmental documentation about the implementation process was collected to mitigate the impact of these limitations. This included the BWC policy, annual reports, and budget proposals.

Lastly, my findings on how structures and practices have changed at Sunnyvale relied on how officers perceived those changes, and I did not do any confirmatory analysis with other forms of data. Police officer perceptions of how structures and practices had changed could have been different from how they actually changed (if at all). Although this is a significant limitation, I tried to mitigate the impacts of relying solely on police perceptions by interviewing officers across the department with the hopes of giving me a clearer picture of what happened.

Although there were several limitations to my study, little if any research exists on the implementation process of BWCs and their impacts on police structures and practices nor technological frames. Relying exclusively on any single method might not have produced "rich" enough data to gain adequate insight into the implementation process. The purpose of this study was not to give a nomothetic (about many cases), but instead an ideographic (pertaining to an individual case) explanation about the implementation of BWCs at one police organization.

Future Research

Considering the findings of this study in addition to the direction of existing research on body-worn cameras and technological frames, there are certain avenues that should be explored by future research. Whether future research focuses on replicating existing studies in new jurisdictions or examining entirely new aspects of BWCs, it is important that research continues to focus BWCs as they continue to diffuse across the United States and internationally. It is imperative to our understanding of BWCs that new research in addition to replication studies be conducted on BWCs.

Further probing into the perceived benefits and drawbacks of BWCs and how these perceptions change over time can yield insights that can be helpful to both practitioners and scholars. For instance, some officers at Sunnyvale explained that they felt as though their credibility had been put under question by BWCs when they went to court. If this is a widespread belief among officers belonging to different agencies, then it is important to understand what impacts that perception might have on police culture. Could BWCs enforce or perpetuate a sense of distrust between the public and the police and how would that impact police culture?

Additionally, a content analysis of police reports could be undertaken in order to understand to what degree BWC footage has improved police reports, if at all. It could be possible that police only perceive that their reports are better with the BWC footage and therefore it might be advantageous to the understanding of BWCs' role in the reporting process to conduct an objective examination of the quality of police reports. Such a study might be easier said than done, but attempts should be made to further investigate the

impacts of BWCs on reporting practices. Currently, it is not certain how much BWCs actually benefit reporting concerning the quality or whether it is all just officer perceptions. Additionally, it might also be beneficial to learn how members of the courts' perception of the quality of police report have changed as that could provide further insight into how BWCs might be affecting the criminal justice system as a whole.

Future research should also consider how BWCs are being used for supervision at other police agencies. One of the more significant findings of the current study was that the way that BWCs were being used at Sunnyvale Police Department as a supervisory tool. BWCs were not really used by supervisors to evaluate the performance and conduct of patrol officers. Instead, supervisors engaged in reactive review of footage after a complaint was filed. Understanding if this was something that occurred at one organization (Sunnyvale), whether it is something that is more likely to occur at smaller police agencies, or whether it is something that is somewhat universal among police agencies is important to know. Understanding the different impacts of these approaches in various organizational contexts on police behavior and perceptions can provide insights into the implementation of BWCs that might be useful to both scholars and practitioners.

Another aspect of BWCs that could be considered is to examine the relationship between BWCs and citizen complaints in further detail. Existing research has shown that BWCs do reduce citizen complaints and speed up the process of resolving them (MPD, 2013; Farrar, 2013; White, 2014). Although this study did not seek to verify this outcome, it did find, however, that supervisors tended to handle complaints with the

BWC footage before the point that complaints were actually filed (or put on paper). What happened at Sunnyvale was that a supervisor would review BWC footage and then tell the citizen that they likely did or did not have a legitimate case against the officer in question. Citizens would then leave or move forward with their complaint. If they did not go forward with it, the department and not file a complaint on paper, which means that the complaint did not show up on the complaint statistics that I provided. Understanding how officers use BWC footage during citizen complaint investigations would be an important research avenue as these devices do offer an opportunity for supervisors to intimidate citizens out of filing complaints. Reduced citizen complaints, do not necessarily imply that officers are held accountable for their actions at any higher level, that they act any more professional, nor does it mean that many citizen complaints are necessarily frivolous. Therefore, a deeper examination in how BWCs impact the interaction between the police and citizens prior to the filing of a complaint is pertinent our knowledge of BWCs.

Remaining on the topic of citizen-police relations, further inquiry should be made on police-citizen interactions and to what degree they are impacted by BWCs. Some specific items of interest would include, the calming effects (civilizing and reassuring) that BWCs have had on citizens and verbal caution that officers exercise. I found that BWCs do not tend to affect officers and citizens similarly, in that some officers engaged in verbal caution while others did not. Furthermore, according to the officers, some citizens were more or less likely to be controlled by the presence of BWCs. Although my study offers some insights on this, further research into the dynamics of how the behavior

of officers and citizens are controlled by the presence of BWCs. Do citizens actually feel the way the officers explained? Do BWCs actually have the profound effect on citizen behavior as officer thought they did? How do citizen characteristics or encounter characteristics influence the way officers exercise verbal caution? What makes some officers feel like they need to practice verbal caution while other do not? Studies with larger sample sizes and/or studies that focus intently on these questions may be able to provide better insight on how BWCs impact police-citizen interactions. As it stands, research on BWCs and community-police relations is somewhat scarce and yet is an important factor to consider (White, 2014; Lum et al., 2015).

A similar study to this one should be conducted but within a courtroom setting. A study attempting to gain insight into how BWCs impact structures and practices in addition to the technological frames of different workgroup members should be conducted in a jurisdiction where BWCs have been used for some time. Lum et al. (2015) point out that some research is already being conducted considering how BWCs operate within the courts. However, additional inquiry is needed regarding how courtroom workgroup members think about and behave around body-worn camera footage. Officers at Sunnyvale explained that courtroom workgroup members, in their opinions, relied heavily on BWC footage. If that were actually true, then understanding how the increasing reliance and use of BWC footage by courtroom workgroup members impact structures and practices and frames could be of interest to scholars, policy-makers, the public, and practitioners.

In terms of technological frames research, Davidson (2006) explained that technological frames of reference research seem to be stuck at the “agency level” in that research on TFR, like this study, for the most part only examine TFRs at one organization at a time. Deducing from the work of Scott (2001), who explained that “institutional logics” may exist across entire industries. That is, that members of certain industries share some interpretations and interactions that are similar across organizations within the same field. Davidson (2006) explained that TFRs that seem to be drawn from within contexts of a single organization might actually be the product of the “organizational field” or industry. Davidson (2006) claims that institutional logics are shared across organizational fields and should be studied to further technological frame theory. Therefore, future research on BWCs can stand to focus on how frames are shared across the organizational field of policing. Such research could highlight certain aspects of the field and the larger police culture that might affect how BWCs are made sense of by police officers on a larger scale.

An additional point that is important to note and goes beyond TFR theory, but is also relevant to the study of BWCs on a larger scale. The findings of this study clearly indicated that not only do officers across an organization have different perspectives on many aspects of BWCs, however, these perceptions also changed with time and interaction. Studies that focus only on the interpretations or perspectives of certain members in an organization like patrol officers exclusively or of the police as one uniform group might be missing some important information regarding the perspectives of police officers on BWCs. Large-scale studies that focus on officer perceptions may

want to include officers at many levels of police organizations to get a more comprehensive understanding of how BWCs are made sense of.

At a more general level, it is in the interest of gaining a full and comprehensive understanding of BWCs that more replication studies be conducted not just of this study but of the different BWC research that currently exists. Although the body of research is still very small on BWCs (although growing rapidly), there is an opportunity to conduct more replication studies given the shared belief among scholars that BWCs will continue to diffuse across the country (and possibly the world; see Coudert, Butin, and Le Metayer, 2015) rather quickly. It is the position of this dissertation that in addition to studies that examine BWCs through new avenues of inquiry, it is of equal importance that replication studies be conducted based. This can help build the evidence base to become more exhaustive and robust, which can lead to the creation of systematic reviews and ultimately better, more nuanced information for practitioners, scholars, policy-makers, and the public. Nonetheless, BWC research is still in its infancy, and it is important that more research is conducted on their impacts on organizations, the criminal justice system, and society.

Final Thoughts

Body-worn cameras have become a topic of discussion among members of the public, policy makers, practitioners, and scholars since events such as Fergusson, Freddie Gray, Laquan McDonald, Tamir Rice, and Eric Garner transpired and became sensationalized in the media. BWCs were presumed to be a technology that would serve as a means of significant change in the way the police behave. BWCs would be used to

make the police's actions more transparent to the rest of society, and therefore, the police would be held accountable for the way they behaved during citizen interactions.

However, pegging BWCs as a solution to the growing presumption that police are abusing their power and infringing on the rights of citizens might not work if the police, themselves do not agree with this presumption.

At Sunnyvale, it did not seem as if agency members saw that it was necessary for the police to change or to be held at a higher level of accountability. They mostly held the belief that 99.9% of police officers are honest, hard-working civil servants who respected the rights of citizens and valued public safety. According to Sunnyvale officers, a few bad apples were to blame for the growing "hostility" toward the police. Many officers blamed the media for the current political climate in that the police were misrepresented by the popularity of a few relatively uncommon events (some of which they found just as disturbing as the rest of the public). Although BWCs did make officers at Sunnyvale feel more accountable for their behavior, they did not feel as though there had been a problem in the way they were doing their work in the first place. In other words, they did not feel as though the police needed to be held at a higher level of accountability because they did not think that they were abusing their positions. Instead, they saw BWCs as something that would protect the police against what they presumed to be a growing sense of hostility toward the police. Officers across the organization were quick to share this sentiment with me, but I also noticed this in the way that those officers put in charge of reviewing footage performed. The footage was primarily reviewed reactively after a citizen brought a complaint to the station.

In conclusion, accepting that BWCs were a useful tool and using BWCs in their daily work at Sunnyvale, did not automatically imply that they perceived or accepted that a fundamental change in their policing paradigm was necessary. Whether a change in the way police officers think about their work is actually necessary is a normative assessment that goes beyond the scope of this dissertation. However, if major change in how the police operate in the United States is to occur, the need for change would have to stem from the police themselves, and will certainly not be solely dependent on the diffusion of body-worn cameras.

APPENDIX

Appendix A: Guided Interviews

Individual Interview Guide 1, Patrol Officers:

Respondent ID: _____

Place of

Interview: _____

Date of Interview: _____

Interview Number: _____

Start Time _____ End Time _____ Total Duration (min) _____

Thank you again for participating in this study. The purpose of this interview is to learn about your experiences and views of body-worn cameras. I think that police professionals may have different views on this topic. I would like to learn as much as possible from YOUR insights so please be as detailed as possible.

1. Background Questions:

- a. How long have you been a police officer?
- b. For how many of those years have you been a patrol officer?
- c. What is your current job assignment?
- d. In what police assignment have you spent the most time?
- e. How long have you been using BWCs?

Ok great, now that we got all of the “house-keeping” questions out of the way, I would like to start with some questions about your actual experience of wearing a BWC while out on patrol

2. Nature of BWCs:

- a. To begin, can you walk me through the process of putting your device on?
[PROBE] How long does it take usually?
- b. Since it is a head-mounted device, is it positioned comfortably or does it feel awkward? [PROBE] Can you notice the device in your line of vision?

- c. Do you ever feel like your BWC affects aspects of your job like driving or running? [PROBE] Does it feel sturdy or flimsy during these activities?
- d. How about the battery life? How long does it last? Can you charge the device in your car or are you provided with a spare battery?
- e. So at the end of your shift, how is the footage downloaded? Can you walk me through the process?
- f. How easy is it to get access to the footage after it has been downloaded? [PROBE] Do you use the footage when writing up reports? [PROBE] Do BWCs make this aspect of your job easier or more difficult?
- g. Based on what we've discussed so far, how do you think that your fellow patrol officers experience the technical aspects of BWCs? Do they experience them the same way as you or do you think that they experience them differently?

Thank you, that was very insightful. I would now like to delve a little deeper in how you as an end-user perceive body-worn cameras and how your perceptions may have changed over time, if at all. So let's start with the implementation.

3. Technology Strategy:

- a. Can you tell me a little about some of the reasons why BWCs were implemented in this agency? [PROBE: Because of pressures from the community; because of some high visible event; etc.] [PROBE] Is this YOUR reason, or is this the reason that the department told you? [PROBE] Why do you think the department really implemented BWCs?

4. Technology in Use

- a. When you first found out that you'd be wearing a BWC, what were your initial impressions about how BWCs might affect your daily work? (So this is before you ever actually used one.) [PROBE] What shaped this opinion? [PROBE] Why is that?
- b. Now that you have worked with BWCs for [X Time], how much has your opinion changed from what you just described, if at all? [PROBE] Why do you think that is?
- c. In your opinion, what are some of the benefits of wearing BWCs during patrols? [PROBE] Now that you've spoken about the benefits, what are some of the drawbacks?
- d. How do you think other patrol officers that use BWCs feel about their strengths or benefits? Are opinions mixed, or do your co-workers all hold the same opinions about BWCs?
- e. Body worn cameras obviously provide a recording of an event that others can then view later. In what ways has wearing a body-worn camera

changed the nature of supervision in the department? [PROBE] In what ways has it changed your relationship with your particular supervisor?

Some of my final questions focus on specific events:

5. Example Questions:

- a. Can you tell me about a time when wearing a BWC or having BWC footage made your job easier?
- b. What about a time when wearing a BWC made your job more difficult?

Great, thank you so much for your input. Is there anything else that you want to share with me today regarding your experiences and views about BWCs?

Thank you for your cooperation.

Individual Interview Guide 2, Training Administrators:

Respondent ID: _____

Place of

Interview: _____

Date of Interview: _____

Interview Number: _____

Start Time _____ End Time _____ Total Duration (min) _____

Thank you again for participating in this study. The purpose of this interview is to learn about your experiences and views as someone that has to deal with back-end, technical aspects of body-worn cameras and footage. I think that police professionals may have different views and experiences with this technology. I would like to learn as much as possible from YOUR insights so please be as detailed as possible.

1. Background Questions:

- a. How long have you worked in IT? [PROBE] What about policing?
- b. How long have you worked for this department?
- c. How long have you worked with BWCs?
- d. Would you describe your involvement with BWCs? Do you only work with footage? Are you involved in their maintenance?

Ok great, now that we got all of the “house-keeping” questions out of the way, I would like to start with some questions about your actual experiences with BWCs, BWC footage, and their maintenance.

2. Nature of Technology Questions:

- a. To begin, would you walk me through the process of how BWC footage is stored?
- b. What backend-systems/software do you use? [PROBE] Would you tell me about why the department chose this particular system? What were some of the more important factors in choosing this software?
- c. How long are the data kept for? What are the storage requirements?
- d. What are some of the troubles that patrol officers have BWC devices? [PROBE] Do you hear this from them directly?
- e. Have you heard complaints from consumers (detectives, prosecutors/attorneys, patrol officers) about BWC footage? [PROBE] If so, can you describe these to me? What about the process of accessing footage?

- f. How long did it take to set up backend systems to house the video data?
[PROBE] Do you think that current back end systems are adequate?
[PROBE] How can they be improved in your mind?

Thank you, that was very insightful. I would now like to delve a little deeper in how you as a back-end user perceive body-worn cameras and how your perceptions may have changed over time, if at all. So let's start with the implementation.

3. Technology Strategy Questions:

- a. Would you tell me about some of the reasons for why BWCs were implemented in this agency? [PROBE] Because of pressures from the community (because of some high visible event; etc.)?
- b. What kind of input did you have in decision making in the implementation process, if at all?
- c. What are some of the benefits of patrol officers wearing BWCs and BWC footage in your opinion? [PROBE] Now that you've spoken about the benefits, what are some of the drawbacks?
- d. When you first found out that the department would be implementing BWCs, what were your initial impressions about how these devices and footage might affect your daily work? [PROBE] What shaped this opinion? [PROBE] Why is that?
- e. Now that you have worked with BWCs and BWC footage for [X Time], how much has your opinion changed from what you just described, if at all? [PROBE] What are some of the reasons for this change?

Some of my final questions focus on whether you have noticed any changes within the organization, if any, that you would attribute to body-worn cameras.

4. Technology in Use Questions:

- a. How do you retrieve footage? [PROBE] What are the protocols for that (i.e. privacy protections)? [PROBE] How often do you have to retrieve footage? For whom?
- b. To go back to requests for BWC footage, what are some of the most frequent requests for footage that you receive? [PROBE] From whom? [PROBE]? What do they use it for?
- c. Body worn cameras obviously provide a recording of an event that others can then view later. In what ways has body-worn camera footage changed the nature of supervision in the department? [PROBE] What about your relationship with patrol officers?
- d. How, if at all, have BWCs affected how patrol officers make decisions on the street? [PROBE] How about accountability? Have BWCs changed how officers feel accountable for their actions?

- e. What other organizational changes have you noticed as a result of BWCs and BWC footage, if any? In other words, has the implementation of BWCs changed the kind of place this department is to work? [PROBE] What kinds of changes have you noticed (i.e. accountability to the community, transparency, complaints against officers, complaints from end users)?
- f. How well does this current system work? What changes do you think need to be made to improve it?

Ok so one last question for you: Thinking back on everything that we've discussed so far today. If you could give some "sage advice" to an IT department at an agency that is in the planning stages of implementing BWCs, what would that be? [PROBE] Why?

Is there anything else that you want to share with me today regarding your experiences and views about BWCs?

Thank you for your cooperation.

Individual Interview Guide 3, Detectives:

Respondent ID: _____
Place of
Interview: _____
Date of Interview: _____

Interview Number: _____

Start Time _____ End Time _____ Total Duration (min) _____

Thank you again for participating in this study. The purpose of this interview is to learn about your experiences and views of body-worn cameras. I think that police professionals may have different views on this topic. I would like to learn as much as possible from YOUR insights so please be as detailed as possible.

1. Background Questions:

- a. How long have you been a police officer?
- b. For how many of those years have you been a patrol officer?
- c. How long have you been a detective?
- d. What is your current assignment as a detective? [PROBE] What were your previous assignments as a detective?
- e. Before working as a detective, did you ever use BWCs?

Ok great, now that we got all of the “house-keeping” questions out of the way, I would like to start with some questions about your actual experiences with BWCs and BWC footage.

2. Nature of Technology Questions:

- a. One of the benefits of BWCs according to promoters of these devices is BWC footage can be useful during investigations as a means of evidence. In what ways do you use BWCs for your investigations?
- b. Can you walk me through the process of accessing BWC footage? [PROBE] How do you get access to recorded footage?
- c. How many hours per week on average do you spend reviewing BWC footage? [PROBE] What kinds of benefits does the footage provide for you in the course of your daily work? What are some of its limitations?

Thank you, that was very insightful. I would now like to delve a little deeper in how you as a back-end user perceive body-worn cameras and how your perceptions may have changed over time, if at all. So let's start with the implementation.

3. Technology Strategy Questions:

- a. Would you tell me about some of the reasons why BWCs were implemented in this agency? [PROBE] Because of pressures from the community (because of some high visible event; etc.)?
- b. When you first found out that the department would be implementing BWCs, what were your initial impressions about how these devices and footage might affect your daily work? [PROBE] What shaped this opinion? [PROBE] Why is that?
- c. Now that you have worked with BWCs and BWC footage for [X Time], how much has your opinion changed from what you just described, if at all? [PROBE] Why do you think that is?
- d. What are some of the benefits of patrol officers wearing BWCs and BWC footage in your opinion? [PROBE] Now that you've spoken about the benefits, what are some of the drawbacks?

Some of my final questions focus on whether you have noticed any changes within the organization, if any, that you would attribute to body-worn cameras.

4. Technology in Use Questions:

- a. Body worn cameras obviously provide a recording of an event that others can then view later. In what ways has body-worn camera footage changed the nature of supervision in the department? [PROBE] In what ways has it changed your relationship with your particular supervisor? What about with patrol officers?
- b. Do you the use of BWCs affected patrol officer autonomy and use discretion? [PROBE] To what capacity have you noticed it?
- c. What other organizational changes have you noticed as a result of BWCs and BWC footage?

Ok, one more question: Can you tell me about a particular time where BWCs were instrumental in a case's success?

Is there anything else that you want to share with me today regarding your experiences and views about BWCs?

Thank you for your cooperation.

Individual Interview Guide 4, Supervisors:

Respondent ID: _____

Place of

Interview: _____

Date of Interview: _____

Interview Number: _____

Start Time _____ End Time _____ Total Duration (min) _____

Thank you again for participating in this study. The purpose of this interview is to learn about your experiences and views of body-worn cameras. I think that police professionals may have different views on this topic. I would like to learn as much as possible from YOUR insights so please be as detailed as possible.

1. Background Questions:

- a. How long have you been a police officer?
- b. For how many of those years have you been a patrol officer? [PROBE] When you were a patrol officer, did you ever have to wear a BWC? How long?
- c. How long have you been a supervisor?

Ok great, now that we got all of the “house-keeping” questions out of the way, I would like to start with some questions about your actual experience with BWCs and BWC footage.

2. Nature of Technology Questions:

- a. Can you walk me through the process of accessing BWC footage? [PROBE] How do you get access to recorded footage?
- b. How much training, if any, did you receive in working with BWC footage? [PROBE] How about your subordinate officers?
- c. How many hours per week on average do you spend reviewing BWC footage? [PROBE] What kinds of benefits does the footage provide for you in the course of your daily work? What are some of its limitations? [PROBE] How easy or difficult is it to use the footage?
- d. From a supervisory perspective, what are some of the benefits of your officers using BWCs (i.e. training, performance reviews, etc.)? [PROBE] What about some of the challenges?
- e. How do you use BWC footage for training and/or performance reviews? [PROBE] When do you do this (i.e. when something goes wrong, citizen complaint, periodically)?

Thank you, that was very insightful. I would now like to delve a little deeper in how you as a back-end user perceive body-worn cameras and how your perceptions may have changed over time, if at all. So let's start with the implementation.

3. Technology Strategy Questions:

- a. Would you tell me about some of the reasons why BWCs were implemented in this agency? [PROBE] Because of pressures from the community (because of some high visible event; etc.)?
- b. When you first found out that the department would be implementing BWCs, what were your initial impressions about how these devices and footage might affect your daily work? [PROBE] What shaped this opinion? [PROBE] Why is that? [PROBE]
- c. Were you included in the decision making process when the department was considering BWCs? [PROBE] To what extent? How much say did you have?
- d. Now that you have worked with BWCs and BWC footage for [X Time], how much has your opinion changed from what you just described, if at all? [PROBE] Why do you think that is?
- e. What are some of the benefits of patrol officers wearing BWCs and BWC footage in your opinion? [PROBE] Now that you've spoken about the benefits, what are some of the drawbacks?

Some of my final questions focus on whether you have noticed any changes within the organization, if any, that you would attribute to body-worn cameras.

4. Technology in Use Questions:

- a. Body worn cameras obviously provide a recording of an event that others can then view later. In what ways has wearing a body-worn camera changed the nature of supervision in the department?
- b. What are some of the protocols and steps that you and your subordinates have to follow? [PROBE] How do you get your subordinates to follow these protocols?
- c. What changes to these protocols would you make to these protocols, if any? [PROBE] Why is that?
- d. Have you noticed any changes in the relationships between you and co-workers/subordinates/superiors that you can attribute to BWCs? [PROBE] Why do you think these changes occurred?
- e. Do you think BWCs have changed how your subordinates interact with the public? [PROBE] In what ways? [PROBE]
- f. How about the way members of the public interact with officers? [PROBE] In what ways?

Is there anything else that you want to share with me today regarding your experiences and views about BWCs?

Thank you for your cooperation.

Individual Interview Guide 5, Command Staff:

Respondent ID: _____
Place of
Interview: _____
Date of Interview: _____

Interview Number: _____

Start Time _____ End Time _____ Total Duration (min) _____

Thank you again for participating in this study. The purpose of this interview is to learn about your experiences and views of body-worn cameras. I think that police professionals may have different views on this topic. I would like to learn as much as possible from YOUR insights so please be as detailed as possible.

1. Background Questions:

- a. How long have you been a police officer?
- b. How long have you been a(n) [X]? [PROBE] Before working as a(n) [X], did you ever use BWCs?
- c. To what capacity are you involved with BWCs? Do you only work with footage?

Ok great, now that we got all of the “house-keeping” questions out of the way, I would like to start with some questions about the implementation of BWCs.

2. Technology Strategy Questions:

- a. Can you tell me a little about some of the reasons why BWCs were implemented in this agency? [PROBE] Because of pressures from the community (because of some high visible event; etc.)?
- b. What did you, the Chief, and fellow command staff know about BWCs at the time that they were being considered?
- c. Were you or any of your colleagues aware of any other organizations that have already been using these when this department was planning on adopting BWCs? [PROBE] How many? [PROBE] Did this department attempt to contact any of these organizations in attempts to learn from them in any way? [PROBE] For what information?
- d. How much were you involved in the decision making and/or the implementation process of these devices? [PROBE] Can you give me some insight into how did the evaluation process worked? [PROBE] Which brands were considered? [PROBE] Why?

- e. What factors were most important in choosing which brand to go with? [PROBE] What and why?
- f. Once the decision was made to use BWCs, how would you describe your implementation strategy? [PROBE] What were some of the key challenges to implementing BWCs in the department?
- g. Compared to what you expected in terms of push back, how were BWCs actually received by the department? [PROBE] How did you try to overcome any push back from the department?
- h. What about the community? Did you expect any push back from the community? [PROBE] How did the community react in relation to what you expected? [PROBE] How did you try to overcome any push back from the community?
- i. When you first found out that the department would be implementing BWCs, what were your initial impressions about how these devices and footage might affect your daily work? [PROBE] What shaped this opinion? [PROBE] Why is that? [PROBE]
- j. Now that you have worked with BWCs and BWC footage for [X Time], how much has your opinion changed from what you just described, if at all? [PROBE] Why do you think that is?
- k. What are some of the benefits of patrol officers wearing BWCs and BWC footage in your opinion? [PROBE] Now that you've spoken about the benefits, what are some of the drawbacks?

Alright, so now that we've discussed the implementation of body-worn cameras, I would like to continue with some questions about your experiences with these devices and how the organization experienced these after they were rolled out. Let's start with training.

3. Nature of Questions:

- a. How did initial training work? Did Taser provide training for the entire organization or was the organization responsible for providing training to patrol officers? [PROBE] Why/ why not? [PROBE] Were you satisfied with this? [PROBE] Why/why not?
- b. Can you walk me through the process of accessing BWC footage? [PROBE] How do you get access to recorded footage? [PROBE] How much training, if any, did you receive in working with BWC footage?
- c. How many hours per week on average do you spend reviewing BWC footage? [PROBE] What kinds of benefits does the footage provide for you in the course of your daily work? What are some of its limitations? [PROBE] How easy or difficult is it to use the footage?

Thank you, that was very insightful. Some of my final questions focus on whether you have noticed any changes within the organization in terms of how BWCs are used, if any, that you would attribute to body-worn cameras.

4. Technology in Use Questions:

- a. From a supervisory perspective, what are some of the benefits of your officers using BWCs (i.e. training, performance reviews, etc.) [PROBE] What about some of the challenges?
- b. How do you use BWC footage for training and/or performance reviews? [PROBE] When do you do this (i.e. when something goes wrong, citizen complaint, periodically)?
- c. Body worn cameras obviously provide a recording of an event that others can then view later. In what ways has wearing a body-worn camera changed the nature of supervision in the department?
- d. What are some of the protocols and steps that you have to follow? [PROBE] Are there structures in place to ensure that protocols are being followed? [PROBE] Would you describe them?
- e. What changes would you make to these protocols, if any? [PROBE] Why is that?
- f. Have you noticed any changes in the relationships between you and co-workers/subordinates/superiors that you can attribute to BWCs? [PROBE] Why do you think these changes occurred?

Ok so one last question for you: Thinking back on everything that we've discussed so far today. If you could give some "sage advice" to a department that is in the planning stages of implementing BWCs, what would that be? [PROBE] Why?

Is there anything else that you want to share with me today regarding your experiences and views about BWCs?

Thank you for your cooperation.

Individual Interview Guide 6, The Chief:

Respondent ID: _____

Place of

Interview: _____

Date of Interview: _____

Interview Number: _____

Start Time _____ End Time _____ Total Duration (min) _____

Thank you again for participating in this study. The purpose of this interview is to learn about your experiences and views of body-worn cameras. I think that police professionals may have different views on this topic. I would like to learn as much as possible from YOUR insights so please be as detailed as possible.

1. Background Questions:

- a. Tell me a little bit about your career and how you became the Chief of Police here at Laurel. How long have you been a police officer? [PROBE] Education/Experience?
- b. How long have you been the police chief? [PROBE] Before becoming the chief, did you ever use BWCs?
- c. To what capacity are you involved with BWCs today? [PROBE] Do you often work with/ handle/ review footage?

Ok great, now that we got all of the “house-keeping” questions out of the way, I would like to start with some questions about the implementation process.

2. Technology Strategy Questions:

- a. So would you tell me about how the idea of Laurel adopting these devices becomes a point of discussion here? [PROBE] How did the implementation of BWCS fit into your overall vision for your department?
- b. Were you or any of your colleagues aware of any other organizations that have already been using these when this department was planning on adopting BWCs? [PROBE] How many? [PROBE] Did this department attempt to contact any of these organizations in attempts to learn from them in any way? [PROBE] For what information?
- c. Can you give me some insight into how did the evaluation process worked? [PROBE] Which brands did you consider? [PROBE] Why? [PROBE]
- d. What factors were most important in choosing which brand to go with? [PROBE] Why did you decide to go with the head-mounted units instead of the body-mounted units?

- e. How much push back did you expect from the department? [PROBE] Why?
- f. Compared to what you expected in terms of push back, how were BWCs actually received by the department? [PROBE] How did you try to overcome any push back from the department?
- g. What about the community? Did you expect any push back from the community? [PROBE] How did the community react in relation to what you expected? [PROBE] How did you try to overcome any push back from the community?

Alright, so now that we've discussed the implementation of body-worn cameras, I would like to continue with some questions about your experiences with these devices and how the organization experienced these after they were rolled out. Let's start with training.

3. Nature of Technology Questions:

- a. How did initial training work? Did Taser provide training for the entire organization or was the organization responsible for providing training to patrol officers? [PROBE] Why/ why not? [PROBE] Were you satisfied with this? [PROBE] Why/why not?
- b. How much time on average do you spend reviewing BWC footage? [PROBE] How easy or difficult is it to use the footage?
- c. Some of the benefits of BWCs according to promoters of these devices are that BWC footage can be used for training, accountability, and performance reviews. What do you use BWC footage for?
- d. Are BWCs working as well as the department intended? [PROBE] What are some of the major challenges of their continued use?

Thank you, that was very insightful. Some of my final questions focus on whether you have noticed any changes within the organization, if any, that you would attribute to body-worn cameras.

4. Technology in Use Questions:

- a. What are some of the benefits of patrol officers wearing BWCs and BWC footage in your opinion? [PROBE] Now that you've spoken about the benefits, what are some of the drawbacks?
- b. Body worn cameras obviously provide a recording of an event that others can then view later. In what ways has wearing a body-worn camera changed the nature of supervision in the department?
- c. What are some of the protocols and steps that you have to follow? [PROBE] Are there structures in place to ensure that protocols are being followed? [PROBE] Would you describe them?

- d. Overall, how pleased are you with the existing protocols regarding the use of BWCs and BWC footage? What changes would you make to these protocols, if any? [PROBE] Why is that?
- e. Have you noticed any changes in the relationships between you and co-workers and/or subordinates that you can attribute to BWCs? [PROBE] Why do you think these changes occurred?
- f. Have they affected the relationship between the police and the community in any way? [PROBE] In what ways?
- g. Overall, how satisfied are you with how BWCs have worked in your department?

Ok so one last question for you: Thinking back on everything that we've discussed so far today. If you could give some "sage advice" to a department that is in the planning stages of implementing BWCs, what would that be? [PROBE] Why?

Is there anything else that you want to share with me today regarding your experiences and views about BWCs?

Thank you for your cooperation.

Appendix B: Ride-Along Interview Guide

Ride-Along Guide, Line-Level BWC Patrol Officers:

Respondent ID:

Date of Interview:

Number of Civilian Encounters Observed

Start Time_____ End Time_____ Total Duration (min)_____

Thank you again for participating in this study and letting me do this ride-along. As you probably remember, the purpose of this interview is to learn about your experiences and views of body-worn cameras. I think that police professionals may have different views on this topic. I would like to learn as much as possible from YOUR insights so please be as detailed as possible.

During today's ride-along I hope it is OK to ask you a few questions about your interactions with the public and how BWCs may have impacted these interactions. What I planned on was to maybe ask you just a few questions about your use of discretion, reporting practices, investigations, training, civilian encounters in general, and depending on what happens today, I might hope to ask you some questions about a specific encounter. You should know that I consider everything you say confidential, so I won't share it with anyone outside of the research team. I will also not identify you in the report that I write.

1. General Citizen Encounter Questions:

- a. In what ways, if at all, have BWCs changed the way you interact with the public? [PROBE] Why do you think this is the case?
- b. How about the other way around? In what ways, if at all, have BWCs affected the way that the public interacts with you? [PROBE] Why do you think that is?
- c. Would you describe the key guidelines for using BWCs in your encounters with citizens? [PROBE] When it comes to these protocols, what would you change if it were up to you? [PROBE] Why would you change that? [PROBE] How about your fellow officers, what do you think they would change?
- d. So overall, do you think that BWCs have helped strengthen or weaken public-community relations? [PROBE] Why do you think that?

2. Discretion Questions:

- a. In your opinion, in what ways has wearing a BWC impacted what you do during citizen encounters? In other words, how does the fact that you know you are being recorded affect the decisions you make during an interaction with a civilian? [PROBE] Can you provide me with an example of when your decision making was affected in such a way? [PROBE] What about your fellow officers?
- b. In what ways, if at all, has wearing a BWC affected your job satisfaction? [PROBE] Why do you think that is? [PROBE] Can you provide me with an example? [PROBE] How about your fellow officers?

3. Reporting Questions:

- a. In what ways, if any, have the use of BWCs changed the way you compile incident reports? [PROBE] For instance, do you use BWC footage to jog your memory when you are writing reports? [PROBE] How has that affected the way you write reports?
- b. In your opinion, have the use of BWCs had any positive effects on the way you write reports? [PROBE] In what ways? [PROBE] Can you give me an example?
- c. What about negative impacts? [PROBE] How have they negatively impacted reporting practices? [PROBE] Can you give me an example?

4. Investigations Questions:

- a. Can you tell me about a time when your BWC footage made an important contribution to an investigation? [PROBE] What about the footage in this case made it particularly useful? [PROBE] How often is this case? Would you say that this experience you just discussed with me is typical or not?
- b. What about a time when BWC footage adversely affected an investigation? [PROBE] Why do you think that was? [PROBE] How often is do you think BWCs or BWC footage negatively affect investigations?
- c. Overall, would you say that BWCs have had a positive, negative or no effect on investigations if any? Why do you think that is?

5. Training Questions:

- a. The manufactures of BWCs claim that BWCs can be used for training purposes by your supervisors (in-service training); can you tell me a little about how your supervisor(s) use BWC footage for training, if at all? (One-on-one, during performance reviews, in a group setting, during certain incidents?)[PROBE] What kind of footage is usually selected for

this purpose? What are the reasons for selecting this particular kind of footage?

- b. What materials/methods did your supervisor(s) use for training prior to the inclusion of BWC footage? [PROBE] Are these still being used in addition to BWC footage or has BWC footage replaced these modes?
- c. What changes would you implement that would improve the use of BWCs for training purposes? [PROBE] What, in your professional opinion, do you think would make BWCs better training tools?

6. After Actual Citizen Encounter Questions (Encounter 1):

I would like to ask you some questions about this encounter that just transpired to get a better sense of what you were trying to accomplish.

- a. Can you tell me about what your goal was during the encounter??
- b. Do you think wearing a BWC helped with that goal, hindered it, or had no effect?
- c. If you had to rate it on a scale of 1 to 10 (10 being the highest), how cooperative was the citizen? [PROBE] Why?
- d. Do you think the citizen noticed the BWC? [PROBE]: Did the citizen's behavior change notably after they realized they were being recorded? [PROBE]: In what way? [PROBE] Would you say this is a typical or atypical experience?

Look for (Observation):

- Type of stop?
- Reason for stop?
- Is citizen cooperative?
- Officer behavior/temperament?
- Did the citizen notice the officer wearing the camera?
- Changes in citizen behavior?
- Citizen demographics?

7. After Actual Citizen Encounter Questions (Encounter 2):

- a. Can you tell me about what you were trying to accomplish back there?
- b. Do you think wearing a BWC helped with that goal, hindered it, or had no effect?
- c. If you had to rate it on a scale of 1 to 10 (10 being the highest), how cooperative was the citizen? [PROBE] Why?
- d. Do you think the citizen noticed the BWC? [PROBE]: Did the citizen's behavior change notably after they realized they were being recorded?

[PROBE]: In what way? [PROBE] Would you say this is a typical or atypical experience?

Look for (Observation):

- Type of stop?
- Reason for stop?
- Is citizen cooperative?
- Officer behavior/temperament?
- Did the citizen notice the officer wearing the camera?
- Changes in citizen behavior?
- Citizen demographics?

End of ride-along: Is there anything else that you want to share with me today regarding your experiences and views about BWCs?

Thank you for your cooperation.

Appendix C: Survey

Information Statement:

This survey will be conducted as part of a research project examining how implementation of Body-Worn Cameras (BWCs) has affected organization behavior at the Laurel Police Department. The results of this survey will be used to gain insight into the implementation process of BWCs and will help develop strategies that will make this technology and its implementation process more efficient in the future. Furthermore, these results will serve as a source of direct feedback to the Laurel Police Department management regarding the implementation of future technologies and utilization of BWCs. Your Chief has agreed to participate in this study and has granted me permission to administer a survey to patrol officers who use body-worn cameras.

Please note that this information is confidential and it will only be used for this project. Your responses will not be shared with anyone outside of the research team. You will not be asked for your identity. You may also choose to not participate in this survey. The survey should only take about 5 to 10 minutes to complete. Your decision to participate will not affect your relationship with the researcher, George Mason University, nor the Laurel Police Department in any way. You can also stop participating in this survey at any point in time without prejudice.

For more information about the survey or this project, please contact me by phone at 7034027482 or by email at mkoen@gmu.edu.

Thank you very much for your participation.

Marthinus C Koen M.A.
Department of Criminology, Law and Society
George Mason University

Please choose an answer that is most applicable to your opinions of body-worn cameras.

1. How tech-savvy would you rate yourself on a scale of 1-10? 1= the least tech savvy. 10= the most tech savvy.

1	2	3	4	5	6	7	8	9	10
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2. In terms of ease of use, how would you rate BWCs? 1= very difficult to use; 10 = very easy to use.

1	2	3	4	5	6	7	8	9	10
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3. To what extent do you agree with the following statements? Please pick the answer that is most applicable to your opinions of body-worn cameras.

	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Applicable
Reporting/Footage Retrieval					
I use BWC recordings to help write official reports.					
It is easy to access footage after it has been recorded.					
BWCs require me to change the way I report my activities.					
BWCs require me to report my activities more frequently.					
I was given an adequate amount of training on how to use my BWC.					
I was given an adequate amount of training on how to <i>access</i> BWC footage.					
I was given an adequate amount of training on how to <i>retrieve</i> BWC footage.					
It is easy to access recorded footage in the field.					
BWCs have led to improved information sharing between me and my fellow officers.					
It is easy to access recorded footage after it has been stored on the server.					

BWCs have led to an information overload.					
I feel like I collect a lot of useless information with my BWC.					
Discretion					
BWCs make me feel accountable for my actions.					
Policies and procedures about when to turn my BWCs on and off are clear.					
BWCs have made my actions more transparent to others in the organization.					
BWCs have made my actions more transparent to members of the public.					
I feel uncomfortable cutting someone a break when wearing a BWC.					
I feel like I have to follow the letter of the law when wearing my BWC.					
Supervision/Performance Reviews					
BWCs have led to closer scrutiny of my work by my supervisor.					
My supervisor uses BWC footage to review my performance.					
BWCs cause conflict between me and my supervisor.					

BWCs have led to improved information sharing between me and my supervisors.					
Citizen Encounters					
I feel safer when wearing my BWC than when not wearing my BWC.					
BWCs make it easier to settle disputes with citizens.					
I feel like I have to be more legalistic (formal) in the way I communicate with civilians when I wear a BWCs.					
My BWC makes me more approachable to citizens.					
Technical Problems					
I know whom to contact when my BWC is malfunctioning.					
I often encounter technical problems with my BWC unit.					

Background Information

In this section, I would like to get some background information on you. Please remember that all the information will remain confidential and will be used for research purposes only

1. What is your age:
 - a. Under 20
 - b. 21-24
 - c. 25-29
 - d. 30-34
 - e. 35-39

- f. 40-44
- g. 45-49
- h. 50-54
- i. 55-59
- j. 60 or older

2. What is your sex?

- a. Male
- b. Female

3. What is your racial background?

- a. Hispanic/Latino
- b. Persian
- c. Arab
- d. Black
- e. Native American
- f. Native Hawaiian or Pacific Islander
- g. Asian
- h. White
- i. Biracial or multiracial

4. What is the highest level of formal education you have received?

- a. High-school diploma or GED
- b. Some college/university
- c. 2 years or Associate's degree
- d. More than 2 years but less than a baccalaureate
- e. Baccalaureate degree
- f. Graduate certificate
- g. Some graduate or law school
- h. Graduate or law school degree

5. How long have you been with the department?

___years ___months

You may write any comments on this survey that you wish here.

Thank you for your cooperation!

This link will take you to a version of the survey that the subjects will take:

<http://www.questionpro.com/a/loadResponse.do?editMode=true>

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BIOGRAPHY

Marthinus C. Koen graduated from Langley High School, McLean, Virginia, in 2004. He received his Associate of Science in Social Sciences from Northern Virginia Community College in 2007. In 2009, he received his Bachelor of Science in Criminal Justice from Old Dominion University. He volunteered as a GED instructor for the Indiana County Jail for one year in Indiana, Pennsylvania and received his Master of Art in Criminology from Indiana University of Pennsylvania in 2011.