Walden University

College of Health Sciences and Public Policy

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Lynn M. Odenthal

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Walden University
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Abstract

Relationship Between the Policy Implementation Process and Officer Acceptance of Body-Worn Camera Programs

by

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MPA, Ohio University, 2004

BA, Ohio University, 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

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Abstract

There is a need to increase body-worn cameras in Ohio, but implementation obstacles include officer resistance. Agency leaders must understand potential barriers to body-worn camera adoption and implementation to prepare for and navigate them. In this study the relationship was analyzed between the policy implementation process and officer acceptance of body-worn camera programs through the lens of organizational procedural justice theory, considering the possible covariate relationship with the technology acceptance model. The study was designed to determine if officer acceptance of body-worn cameras was influenced by officers being informed about body-worn camera implementation before it occurred, officers having an opportunity to participate in body-worn camera program design, and how officers were trained on body-worn camera policy and usage. The design of this study was quantitative and non-experimental, using SurveyMonkey with multiple choice and selection questions. Data were analyzed in IBM SPSS, using linear regression, univariate, and multivariate analysis. Results indicated the policy implementation process, particularly how the implementation was conducted and if the officer felt well-informed and trusted throughout the process, were indicators of overall program success. Deliberate policy implementation, including varying training methods, is recommended to help ensure program success. By overcoming these obstacles, body-worn cameras can be more widely implemented and help improve positive social change through police-community relations.

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Dedication

To my son, Ethan Patton Odenthal, who is, and will forever be, my motivation. You are my reason for existing and my greatest success in life. Also, to my father, the late Joseph David Krolow, who believed I could accomplish anything but couldn't see it unfold.

Acknowledgments

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Furthermore, I would like to thank my friends and family who have rooted for my success, even when the process was painful to watch. I thank my mother, Norma K. Patton, who asked me every morning if I had worked on my dissertation the day before. I thank my friend Rachel Cunningham, who monitored my progress and cheered every milestone. I thank my best friend, Marichal Armstead, who helped me keep my sanity throughout this process and in life.

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Chapter 1: Introduction to the Study

This study concerns the relationship between body-worn camera policy implementation and training and officer acceptance and trust of body-worn cameras. Agencies are not adopting body-worn cameras as readily as previous police technologies such as GPS, social media, closed-circuit television (CCTV), or cruiser-mounted video cameras. Further, officers have met body-worn camera programs with greater resistance than other law enforcement technologies. For example, in Boston, Massachusetts, the police commission drafted officers into the body-worn program forcibly due to resistance, causing major backlash from the police union (Bruinius, 2016). Despite the success of body-worn cameras in reducing citizen complaints (Ariel et al., 2016b) and uses of force, many implementing agencies are not experiencing success. Even worse, some agencies are seeing increased assaults on officers (Ariel et al., 2016d). Body-worn camera success rates are as inconsistent as implementation processes (Ariel et al., 2016a).

Researchers must explore why some agencies successfully utilize and accept body-worn camera programs and others do not. This answer will aid in implementing body-worn camera programs successfully and more widely nationwide. By closing this gap, body-worn camera programs can expand, foster trust by becoming a trusted technology for police and the public, and ultimately improve police-community relations. Body-worn cameras can improve police transparency (Barkediev, 2015, p. 8), provide an additional layer of protection for the public and the officer (Nixon, 2017), and provide an officer's perspective of the incident beyond formal written statements (Marks, 2014)—a perspective that the viewer can watch in real-time (Fallik, 2018).

In this chapter, I will provide a background on the evolution of body-worn cameras and public concerns over police brutality, which have thrust body-worn cameras to the forefront of policing policy debate. Then, I will discuss prevailing literature and research surrounding body-worn camera implementation. This synopsis reveals a gap in current research, which led to the purpose of the study. I will lay out a framework for the study, including problem statements, hypotheses, relevant theories, and the nature of the design. Finally, I will provide assumptions, delimitations, limitations, and the overall significance of the study.

Background

Although wearable video cameras have been introduced in other countries, body-worn cameras, in the context closest to how U.S. citizens understand them today, were first introduced to law enforcement in 2005 (Associated Press, 2007). In the United Kingdom, the police of Devon and Cornwall conducted the first documented trial of police body-worn cameras. The agency leadership touted the emerging technology for saving money and time. In addition to recording high-profile incidents (Associated Press, 2007; Eve, 2020), the agencies hoped to streamline paperwork by documenting interviews via video rather than paper transcription. The trials at Devon and Cornwall featured head-mounted cameras connected to a physical machine to view video. The study showed a reduction in violent crime of up to 8%. The agency hoped the cameras could also assist in capturing the physical actions of domestic abusers (Eve, 2020). Cameras allowed agencies to prosecute abusers using video evidence, even if the victim had been uncooperative or recanted their previous statements (Murphy, 2018).

In 2012, body-worn cameras gained speed with the 2012 Rialto Experiments, where researchers conducted an experimental trial on body-worn camera implementation. The randomized controlled trial found a 90% reduction in citizen complaints and a 50% reduction in officer use of force when agencies equipped officers with body-worn cameras (Sutherland et al., 2017). This research emphasized the potential benefits of body-worn cameras.

Further, President Obama founded The President's Taskforce on 21st-Century Policing upon national concerns regarding police misconduct and broken relations between the police and the communities they serve. Ten of the action items called for in the report refer to police misconduct. These action items include mandated external investigations of in-custody deaths and creating a national registry to ensure that police officers who have lost their certification in one jurisdiction cannot practice policing in another (COPS Office, 2015). The task force's recommendation, combined with public demand, has caused an explosion in the number of agencies implementing body-worn camera programs. Videos of police-citizen interactions, particularly those in which the subject dies, shape the discussion regarding police oversight. Police brutality, excessive force, and police-action deaths are frequent headlines in news articles, newscasts, and social media posts. These concerns are not new but have been elevated and brought to the forefront of the discussion by video evidence or the lack thereof. With the current availability of body-worn cameras, citizen outcries of disbelief often follow any negative police-citizen encounter of which there is no video evidence. Several high-profile cases regarding police brutality have driven this concern and outcry.

Rodney King, 1991

One of the most notable instances of police brutality is the 1991 beating of Rodney King in Los Angeles, California. King was stopped after he fled from police for a traffic violation before being beaten. Four officers were acquitted of the assault charges, two were sentenced to prison, and two were acquitted of violating King's civil rights (CNN, 2019). The Rodney King incident is significant because the event was one of the first videos recorded by a bystander and gained national and international media attention and public recognition. This rare video highlighted the intensity of the brutality and enraged a city and a nation (Watson, 2019). The incident and subsequent court rulings prompted the Los Angeles, California riots and lootings (Maurantonio, 2014), widely publicized in media nationwide and worldwide. The Rodney King case showed the importance of video in identifying instances of police brutality. However, the presence of video evidence is not enough to aid in prosecuting police brutality; the video must be of sufficient quality to see the filmed events, evidenced by LaQuan McDonald's death.

LaQuan McDonald, 2014

LaQuan McDonald was a 17-year-old Black male shot 16 times by a Chicago police officer. McDonald was walking away from police cruisers, wielding a 3-inch knife, far enough away to pose no imminent threat. An officer shot McDonald and proceeded to shoot another 16 times, seven after McDonald lay on the ground (Brown, 2019). There was a police video of the incident, but the video was without sound and was poor quality, which raised suspicions about whether there was an attempt to conceal officer behaviors (Tibbs & Woods, 2017). This incident shows that even when an agency

has implemented police cameras, the quality of the recording and the procedures for using body-worn cameras can bring further scrutiny to an agency. However, with the public knowledge of body-worn cameras and the associated video, agencies without body cameras may receive greater scrutiny.

Michael Brown, 2014

Another case included when police shot and killed 18-year-old Michael Brown during a Ferguson, Missouri, struggle (Brown, 2019). Police stopped Brown for walking down the middle of the street (Potterf & Pohl, 2018). Brown, who was unarmed, tried to take the officer's weapon, and charged at the officer. The officers shot Michael Brown 12 times (Brown, 2018). There was no video of the encounter, and the officers were acquitted. The incident is a testament to the importance of video recording and the widespread backlash from not having such evidence. People question if the results would have been different if there had been video of the incident (Fink, 2020; Nixon, 2017).

Walter Scott, 2015

Police detained Walter Scott during a traffic stop in North Charleston, South Carolina (Falik et al., 2018). During the stop, officers shot Scott eight times in the back and killed him. The official police report filed by the officer stated that Scott approached the officer and attempted to take his taser, resulting in the use of force. Video evidence later surfaced and showed that Scott did not approach the officer but attempted to flee from the scene (Nixon, 2017). The officer was charged with murder and sentenced to 20 years in prison (Collins, 2021). This incident shows the power of video evidence, without

which the representatives of the judicial system and the public may have believed the officer's perjured statement, as was in the case of Terrance Crutcher.

Terrence Crutcher, 2016

Terrance Crutcher was 40 years old when his car broke down on a Tulsa, Oklahoma, road. Police responded to the vehicle in the roadway (Brown, 2019). One officer shot Crutcher, claiming he failed to comply with her order to put his hands above his head (Hawkins, 2016). The officer used a taser on Crutcher and then shot him while he lay on the ground. An overhead video captured the incident. Crutcher was unarmed, and the video shows that his hands were above his head when shot (Boyd, 2019). Authorities charged the officer with manslaughter, but ultimately, the officer was acquitted (Brown, 2019). The video in the case was evidence that the officer's statement had been inaccurate. Scott had been unarmed and not in the commission of a crime when he died at the hands of the police.

George Floyd, 2020

One of the most notable deaths in police custody is the death of George Floyd on May 25, 2020. Police pursued George Floyd after a local store reported him paying with a counterfeit bill (Miller, 2020). During the encounter, Officer Derek Chauvin held Floyd down on the ground by putting pressure on Floyd's neck for 8 minutes and 46 seconds (Forliti, 2021). In July 2020, the agency finally released officers' body-worn camera footage, revealing that Floyd's last words were, "I can't breathe" ("New Police Body Camera," 2020). George Floyd died at the scene. The video shows officer Chauvin removing his knee from Floyd as the stretcher arrives to take him away (Fiorli, 2021).

The death of George Floyd prompted mass protests across the nation. Protestors would lay on the ground for 8 minutes and 46 seconds. George Floyd's death further sparked the Black Lives Matter movement. On July 7, 2022, Derek Chauvin was sentenced 21 for violating Floyd's rights using excessive force (Senter & Dewan, 2022). The case of George Floyd is the ultimate example of the power of body-worn cameras. The video showed Floyd dying during the encounter (Miller, 2020). The defense for Chauvin tried to use the video to challenge the time of death to get Derek Chauvin an acquittal (Senter & Dewan, 2022). The video started a political movement to fight police brutality in the Black community.

Relevance of Study

These incidents all show the importance of video evidence in police-citizen interactions. With the widespread availability of body-worn camera technology, one might think that body-worn cameras are widely used across the field of law enforcement, but they are not. Further, among agencies with body-worn camera programs, policies, training, and usage are inconsistent.

Current literature regarding body-worn cameras focuses heavily on police brutality (Ariel et al., 2016b), reductions in citizen complaints and uses of force (Sutherland et al., 2015), the civilizing effect of body-worn cameras (Ariel et al., 2016c; Choi et al., 2022) and privacy concerns (Adams & Mastracci, 2017; Nixon, 2017). Body-worn cameras can be a tool to prevent police brutality. The 2015 Rialto Experiments concluded with a 50% reduction in the use of force by the police and a 90% reduction in complaints against the police (Sutherland et al., 2017). This reduction is often attributed

to the “civilizing effect” body-worn cameras have on the public and police officers (Ariel et al., 2016c), known as the Hawthorn Effect (American Psychological Association, 2022). It is a phenomenon where a person becomes aware that someone is watching them (Ariel et al., 2016c) and modifies their behavior, typically positively (Adair, 1984; 2000).

Body-worn camera perceptions are not always positive, however. Many officers and private citizens believe that body-worn cameras infringe upon their privacy. The cameras follow officers into the bathroom, record private conversations, peer into delicate situations within the homes of victims, suspects, and witnesses (Adams & Mastracci, 2017), and are believed to be a threat to due process. The police union sued the Boston Police Commission for drafting officers for the body-worn camera pilot program when officers failed to volunteer for the trial (Bruinius, 2016). Despite this controversy, law enforcement officers and citizens agree that body-worn cameras are beneficial. However, there is a divide between officers who unquestioningly accept body-worn cameras and those who resist the technology.

Prevailing research focuses on body-worn cameras' effect on complaints and uses of force but does not account for why some agencies implement them successfully and some do not. Perhaps the issue is not merely that agencies are implementing body-worn cameras but also how agencies implement body-worn cameras. Addressing this gap would allow agencies to identify barriers and remove or adjust to them. If this is the case, law enforcement leaders can design a successful body-worn camera implementation plan to ensure this technology’s successful and trusted integration. This technology could bridge the gap between officers and citizens in an era of great divide and mistrust.

Through organizational justice theory and the technology acceptance model, this study identified the relationship between body-worn camera policy implementation and training to officer acceptance of body-worn cameras.

Problem Statement

Agencies in Ohio are not adopting body-worn cameras universally. According to the Bureau of Justice Assistance (BJA), in a 2015 body-worn camera fact sheet, the U.S. government distributed 19 million dollars in body-worn camera grant funding among 72 agencies. Of those, only two agencies were from Ohio. But a body-worn camera is essential to ensure law enforcement transparency and accountability (Barkediev, 2015), which are both principles of democracy (Principles of Democracy, n.d.). There is a need to increase body-worn cameras in Ohio communities, but implementation obstacles include officer resistance. To achieve widespread successful implementation, agency leaders must understand potential barriers to body-worn camera adoption and implementation to prepare for and navigate around them.

Most body-worn camera research focuses on the results on citizens that occur when agencies implement body-worn cameras. No one has previously researched the direct relationship between these policy and training activities related to body-worn camera acceptance or success. The current study supports that if the citizen knows what law enforcement is doing (transparency), is allowed to voice their side of the story and concerns (inclusion), and is treated without bias (impartiality) and fairly, then the citizen is more likely to comply with or agree with the decisions or actions of the law enforcement officer or agency (R. Miller, 2013). Transparency, inclusion, and

impartiality are all major tenets of procedural justice theory. Similar tenets can gauge the relationship between police officers and the agency they serve. Officers who believe the agency treats them fairly are more likely to be committed to the work, compliant with departmental rules, and accept new policies and technologies like body-worn cameras (Huff et al., 2020). This branch of procedural justice is organizational procedural justice. Officers with higher perceptions of organizational procedural justice were more receptive to body-worn cameras (Huff et al., 2020). Therefore, the agency should focus on the activities that could foster officers' perceptions of organizational procedural justice regarding body-worn cameras, including informing them that they would be implementing a body-worn camera program, involving officers when designing and implementing the body-worn camera program and associated policies, and training officers on agency body-worn camera policy and usage guidelines before implementation. To analyze this relationship further, this research focused on officer acceptance of the body-worn camera program through the technology acceptance model (TAM), which holds that for a person to accept a new technology, they must perceive that technology as useful and believe it to be easy to use (Davis, 1989; Dziak, 2020). Officers who view body-worn cameras as useful and easy to use are more likely to accept and trust their use.

Purpose of the Study

This study was concerned with the relationships and patterns between the global variables of the policy implementation process and body-worn camera program acceptance from the officer's point of view. I hypothesized that when agencies inform

and prepare line-level officers for body-worn camera implementation through the policy process and training, officers will perceive body-worn cameras as more favorable and use them more. Due to the causality relationships hypothesized, quantitative design and statistical analysis was used to examine the following variables: whether a policy is in place, if the agency disseminated the policy before or after cameras were assigned, if there was training on the program and policy, if the agency conducted training before or after cameras were assigned, if the officer knew about the body-worn camera program before it began, if the officer was able to participate in the design and implementation of the program and associated procedures, if the officer perceives the technology to be useful, and if the officer finds the technology easy to use. The TAM was used to determine if perceived usefulness and ease of use increase or decrease with the officers' perceptions of organizational procedural justice.

Research Questions

RQ 1: What is the relationship between agencies informing officers before implementing the body-worn camera and officer acceptance of the program?

RQ 2: What is the relationship between officers having an opportunity to participate in body-worn camera program design and officer acceptance of the body-worn camera program?

RQ 3: What is the relationship between officer training on body-worn camera policy and usage and their acceptance of the body-worn camera program?

H_1: Officers who are aware of body-worn camera programs in advance, are involved in the program design and policy process, and are trained before implementation

are likelier to perceive the technology as both useful and easy to use and will therefore be more likely to accept the body-worn camera program.

H_0: Officers who are aware of body-worn camera programs in advance, are involved in the program design and policy process, and are trained before implementation are no more likely to perceive the technology as useful and easy to use and will therefore not affect officer acceptance of the program.

Framework

Institutional, procedural justice, organizational procedural justice, and the TAM theories ground this study. Institutionalism assumes that a select group of leaders runs institutions. These leaders may be legislators or administrators of a law enforcement agency (Sabatier, 2007). The leaders give legitimacy to the policies of the institution. Part of institutional theory focuses on how agencies make decisions to benefit the whole of the institution. Concurrently, institutional members operate under understood norms based on shared experiences (Frederickson et al., 2016). Regarding body-worn camera implementation, legislative leaders have not developed laws and guidelines to assist agencies in policy development and management of body-worn camera programs. This lack of guidance leads to inconsistent policies and usage.

Procedural Justice Theory

Most body-worn camera research focuses on the results that can occur when agencies implement body-worn cameras. This research supports that body-worn cameras have a positive effect on procedural justice. Procedural justice theory in law enforcement is a theory that citizens are more likely to accept the outcome of interactions with the

police if they believe that the police have treated them fairly (Schaap & Saarikkomäki, 2022). This theory views the police and citizen relationship on the individual level as a relationship founded on trust and respect. It is the driving force behind the call for police transparency, outlined and referenced in the final report of the President's Taskforce on 21st Century Policing, for fulfilling pillar one, "Building Trust and Legitimacy," on the very first page of the report.

Procedural Justice has four tenets—transparency, inclusion, impartiality, and fairness (COPS Office, 2015). From a citizen's perspective, if the citizen knows what the law enforcement officer or agency is doing (transparency), is allowed to voice their side of the story and concerns (inclusion), is treated without bias (impartiality) and fairly, then the citizen is more likely to comply with or agree with the decisions or actions of the law enforcement officer or agency (R. Miller, 2013). This theory is in line with the research on body-worn cameras causing a civilizing effect (Ariel et al., 2016c; Brucato, 2015; Choi, 2022) since the camera documents what the officer is doing without bias and provides the citizens with an irrefutable voice to describe what happened. However, this research study focuses on justice from the officer's perspective, a branch of procedural justice referred to as organizational procedural justice.

Organizational Procedural Justice

Organizational procedural justice theory dictates that employees' perceptions about the organization and its actions directly influence their attitudes and behaviors (Rupp & Thornton-Lugo, 2015). Regarding law enforcement, as a human resource theory, organizational procedural justice theory can be applied to the relationship

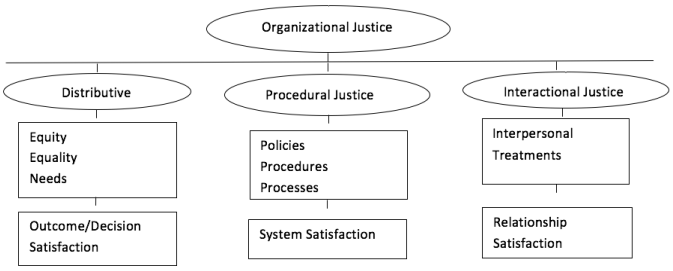
between the officer and the law enforcement agency. Officers who believe the agency treats them fairly are more likely to be committed to the work, compliant with departmental rules, and accept new policies and technologies like body-worn cameras (Huff et al., 2020). If law enforcement officers know about, understand, and participate in decisions and actions taken by the law enforcement agency, they are more likely to trust the agency, comply with its direction, and agree with its decisions. Research has identified that officers' perceptions of organizational procedural justice are a critical predictor of body-worn camera program success (Kyle & White, 2017). Officers with higher perceptions of organizational procedural justice were more receptive to body-worn cameras (Huff et al., 2020). This relationship does not stand alone, however. Like any technology, whether they perceive it as useful and find it easy to use can predict a person's likelihood of acceptance.

Technology Acceptance Model

To further analyze the relationship between officers' trust in the organization and acceptance of body-worn camera technology, researchers must study the acceptance of the body-worn camera program through the TAM. This theory suggests that two main factors affect technology acceptance—perceived usefulness and ease of use (Davis, 1989; Dziak, 2020). Officers who view body-worn cameras as useful and easy to use are more likely to accept and trust their use. In Figure 1, Greenberg (2016) visually represented the components of organizational justice, clearly linking procedural justice to agency policies, procedures, and processes. The perceived usefulness and ease of use can also contribute to technology acceptance, a theory known as the TAM.

Figure 1

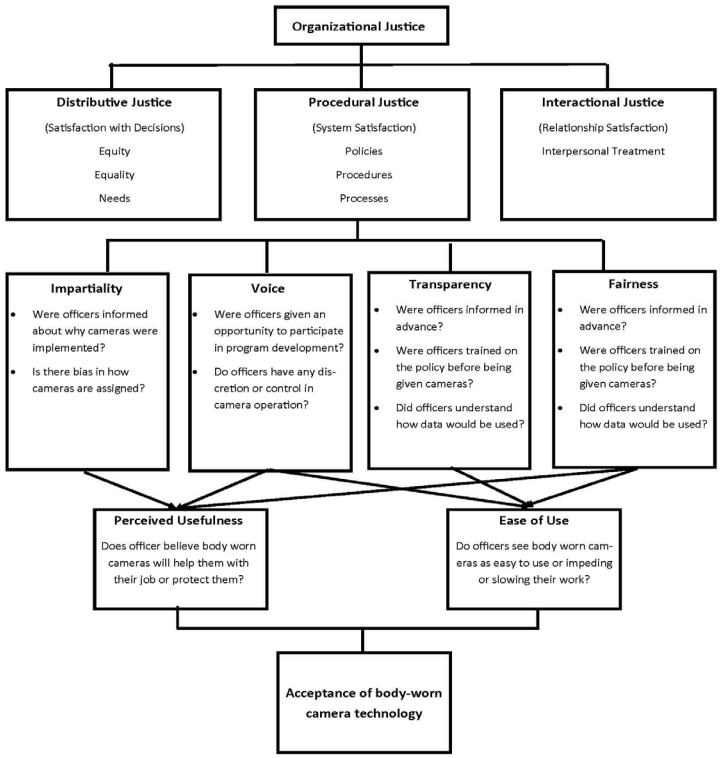
Components of Organizational Justice



To expound upon Greenburg's (2016) visualization, Figure 2 shows the hypothesized relationship between the policy process and technology acceptance through the theories of organizational procedural justice and the TAM.

Figure 2

Organizational Procedural Justice to Technology Acceptance



If the policy process affects the tenets of TAM and the research identifies a causal relationship between the implementation process and overall acceptance, researchers can develop a guided process to help agency leadership implement body-worn camera programs through the lens of organizational procedural justice and, therefore, confidently implement body-worn cameras in a way to make the program successful.

Nature of the Study

Because this study concerns the relationship between variables, it was conducted quantitatively with a survey methodology. This approach allowed a larger target population and increased statistical significance since I distributed the survey simultaneously to thousands of potential survey participants. The Survey Monkey platform was the mode of delivery for the electronic survey. The sample was a convenience sample to achieve the most appropriate sample population. The target population was all sworn non-managerial law enforcement officers in Ohio. In addition to demographic and filter data, the variables assessed were:

- whether a policy is in place,
- if the agency disseminated the policy before or after cameras were assigned,
- if there was training on the program and policy,
- if the agency conducted training before or after cameras were assigned,
- if the officer knew about the body-worn camera program before it began,
- if the officer was able to participate in the design and implementation of the program and associated procedures,

- if the officer perceives the technology to be useful and
- if the officer finds the technology easy to use.

Data were downloaded into SPSS to be analyzed using multivariate analysis of variance (MANOVA) to see which variables have relationships and the strength of those relationships. I also planned to use MANCOVA to determine whether any variables work together to affect the dependent variable, particularly whether the covariates of ease of use and perceived usefulness are affected by the variables reflecting organizational procedural justice ideas.

Definitions

Body-worn camera: Small, wearable cameras that record the actions of both the wearer and persons with whom the wearer interacts (Bureau of Justice Assistance, 2015).

Command staff: Leadership at a law enforcement agency, usually executive leadership (chief and deputy chiefs, etc.) with policy-setting and decision-making authority for the agency.

Implementation: Developing a policy, procedure, or program, including appropriate training of affected personnel (Law Insider, n.d.).

Officer: For the purpose of this study, "officer" will refer to all sworn personnel who are not managers and do not have authority to implement policy by nature of their job assignment.

Organizational (procedural) justice: Procedural justice within an organization where an employee is more likely to comply and support leadership decisions if the employee feels trust for the leadership, usually indicated by the principles of

transparency, inclusion, impartiality, and fairness (Community Oriented Policing Services, 2015).

Assumptions

The research for this study included the following assumptions. First, I assumed that survey respondents were truthful about their membership in the target population. Given the anonymity of the study, it was not possible to verify rank. I also assumed survey respondents were truthful in their answers due to the anonymous survey format. Further, it was assumed that survey respondents did not submit multiple surveys. Due to the nature of police departments, many officers often share computers in a common room, making limiting one survey to one IP address impractical. Finally, I assumed that police departments within the State of Ohio comply with Ohio Revised Code.

Scope and Delimitations

This study looked at sworn officers in Ohio who are not managers. Focusing on officers in Ohio allowed the study to work within the confines of a shared set of statutory codes and responsibilities. Due to the large number of officers in Ohio, the research did not use a traditional random sampling but a convenience sample to achieve statistical significance. The research excluded management personnel because managers traditionally have roles requiring them to formulate or contribute to policy. I aimed to assess the officers' perceptions based on their participation in the policy process despite not being required to develop policy by the nature of their role in the agency. Survey responses were multiple-choice and not open-ended. Several questions allowed

respondents to respond with “other,” assessed anecdotally in reflection of future research areas.

Limitations

This study had potential limitations. Due to the heightened tension between the public and law enforcement agencies, including campaigns to defund the police, agency leaders may not have been willing to share the survey with officers, and officers may have been reluctant to complete the survey. I tempered this limitation by fully explaining to leaders who control contact information for officers who I was and the purpose of my research. I also assured anonymity, which tempered response bias or officers responding in ways they believed were socially acceptable. Due to the anonymity required and the convenience sampling delimitation, there was no guarantee that respondents would be from agencies that have implemented body-worn cameras. This study may not be generalizable outside Ohio because officers within Ohio share the same statutory restrictions, which may influence their views on organizational procedural justice.

Significance

This study identifies whether the policy implementation process affects officer acceptance of body-worn camera programs. Officer acceptance of body-worn cameras is a key indicator of a program’s success (Huff at al., 2020). Agency leadership has general control over the implementation process. Moreover, there is a direct link between body-worn camera acceptance and program success. The nature of the policy process falls within the scope of the components of organizational procedural justice. By improving the organizational procedural justice for the officer, there could be an improvement in the

number of agencies implementing body-worn camera programs and their success upon implementation. Since body-worn cameras provide a sense of procedural justice to the public, ensuring their success could profoundly impact police and community relations nationally and internationally.

Summary

Law enforcement agencies have not universally adopted body-worn camera programs. Research has also demonstrated disparate results at agencies that have adopted body-worn camera programs. Research on body-worn camera programs has focused on post-implementation reduction of officer use of force or citizen complaints. But these results are not conclusive or generalizable. The disparity in the success of these programs may not lie with the mere implementation of body-worn cameras but with how agencies implement the programs. Research shows a link between the success of body-worn camera programs and officer acceptance of the technology. There are links between officer acceptance of new technologies, their feelings about organizational procedural justice, and their perception of the technology's usefulness and ease of use. If agencies inform officers about the body-worn camera program, include them in its development, and prepare them with training, officers will be more likely to find the technology useful and better prepared to find it easy to use.

Chapter 2: Literature Review

Body-worn cameras are a key tool in promoting transparency and procedural justice for the public (COPS Office, 2015). However, agencies are not universally implementing body-worn cameras. It is imperative to discern what makes body-worn cameras accepted and successful at some agencies but not others. Research and implementation across all agencies implementing body-worn camera programs may not result in the level of success found in the Rialto Experiments (Sutherland et al., 2015).

Most body-worn camera research concerns the effect of implementation on officer use of force or citizen complaint rates. There is very little research on officers' perceptions of body-worn camera programs and organizational procedural justice in correlation to the officers' perceived usefulness or ease of use and the programs' overall success. The policy implementation process aligns closely with organizational procedural justice, as it is the main way law enforcement agencies implement change. There is a link between organizational procedural justice and feelings of fairness, inclusion, being well-informed, and impartiality. Therefore, it is possible that the policy implementation process could be predictive of the success of body-worn camera programs. Further, although the TAM anticipates that technology program success is relative to perceived usefulness and ease of use, my research found no literature specifically studying the policy implementation process related to the success of body-worn camera programs or the process's potential impact on officers' perceptions of the technology's perceived usefulness or ease of use. By addressing this gap, law enforcement leaders will have the opportunity to navigate the policy implementation process with organizational procedural

justice in mind. This could contribute to more success in body-worn camera programs, positively influencing agency transparency and police-community relations.

This chapter outlines the literature review process. I will discuss the theories that ground previous research and the current study. An explanation of the literature search strategy will show the actions producing the literature outlined herein. The literature review resulted in common themes, generally categorized within the TAM facets—ease of use and perceived usefulness. The themes include privacy concerns, costs of implementation, legislation, policy, and training; the Hawthorne Effect; concern over police brutality; the delusion of body-worn cameras as a panacea; and a different point of view.

Literature Search Strategy

I predominantly searched academic journals to research literature on body-worn camera implementation and organizational justice theory. However, due to the high-profile cases of officer brutality and the rapidly changing and expounding nature of body-worn camera programs in law enforcement, I included news articles as a source of historical and current information. The focus was on literature from 2015 forward, but the review includes older resources that frame the histories of body-worn camera development and police brutality. As there is very little information on organizational procedural justice or the TAM in law enforcement, I expanded my search to include outside facets of organizational justice procedural justice as human resource theories and applications of the technology acceptance model. Table 1 shows the databases and search engines used and search term combinations.

Table 1

Literature Search Strategies

Source	Applicable Term Combinations
E.B.S.C.O.	Body-worn cameras/B.W.C.
Google	Death in Police Custody
Google Scholar	Hawthorn Effect
J.S.T.O.R.	Institutionalism
Lexis Nexis	Organizational Justice
ProQuest	Organizational Procedural Justice
Sage Journals	Police Brutality
Springer Publications	Policy Implementation, Body-Worn Cameras
	Policy Implementation, Law Enforcement
	Policy Implementation, Organizational Procedural Justice
	Procedural Justice
	Rationalism
	Taylorism
	Technology Acceptance
	Technology Acceptance Model/T.A.M.

Theoretical Framework

This study is grounded in two main theories—organizational procedural justice and the technology acceptance model. Studies regarding technology acceptance, law enforcement, and body-worn cameras reference these theories individually. However, this study will apply them concurrently to study the hypothesized link between the policy process and body-worn camera technology acceptance.

Organizational Procedural Justice

In 1987, Jerry Greenberg coined organizational justice theory, deriving it from equity theory, which divides the operation of an organization into employee inputs and outputs. In equity theory, Adams (1963) looked at employee motivation, particularly the pay-to-productivity relationship. The theory has expanded to look at a broader range of inputs and outputs. Inputs include hard work, skill, ability, colleague support, trust in superiors, and acceptance of others. Outputs include praise, responsibility, recognition,

and job security (Mind Tools Content Team, n.d.). Greenberg identified that three major categories of justice arise from the organizational relationship—distributive, procedural, and interactional justice. Distributive justice describes employee satisfaction with how agencies make decisions, encompassing the ideas of equity, equality, and needs. Procedural justice represents an employee's overall satisfaction with the system, including policy, procedure, and associated processes. Interactional justice looks at employee satisfaction with work relationships and how the organization treats them as employees (Adams, 2016). Organizational procedural justice theory dictates that employees' perceptions about the organization and its actions directly influence their attitudes and behaviors (Rupp & Thornton, 2015).

Recent literature on procedural justice focuses on citizen satisfaction with and trust in law enforcement and, to some extent, how technology has affected that relationship. The research focuses on the end-result of community satisfaction and community-police relations but often does not view the officer as a manipulated variable. For instance, Parry et al. (2019) performed a quasi-experimental study relative to procedural justice and videos of police encounters. The study found a significant effect on citizen perceptions of these encounters based on the video they viewed. Similar research has shown how videos of police interactions affects the public, demonstrating the effect of media-controlled content or video posted on social media (Mohler et al., year). Other researchers have applied procedural justice theory to study citizens and the TAM to analyze officer acceptance, concluding that police and citizens perceive body-

worn cameras as a good tool, and officers perceived them as useful and easy to use (Johnson, 2021).

Organizational Justice and Body-Worn Cameras

Officers often have negative beliefs about organizational justice concerning body-worn cameras. The cameras, because they are viewed and toted as increasing police accountability (Palmer, 2016), may be interpreted as proof that the agency leadership does not trust the officers under their command. Law enforcement command staffs may believe that supervisors would use body-worn camera video to investigate officer mistakes and issue discipline (Smykla et al., 2015). An officer's perception of organizational justice, or trust in the agency, predicts whether the officer will be amenable to change or accept new technology (Kyle, 2017), like body-worn cameras (Headley at al., 2017). Likewise, improperly rolling out changes and new technology can further deteriorate officers' trust.

Regarding law enforcement, researchers can apply organizational procedural justice theory as a human resource theory to the relationship between the officer and the law enforcement agency. Officers who believe agencies treat them fairly are more likely to be committed to the work, more compliant with departmental rules, and accept new policies (Huff at al., 2020) and new technologies like body-worn cameras. If law enforcement officers know about, understand, and participate in decisions and actions taken by the law enforcement agency, they are more likely to trust the agency, comply with its direction, and agree with its decisions. Research has identified that officers' perceptions of organizational procedural justice are a critical predictor of body-worn

camera program success (Kyle, 2017). Officers with higher perceptions of organizational procedural justice were more receptive to body-worn cameras (Huff at al., 2020). Research suggests that officer acceptance of the body-worn camera program is a key factor in body-worn camera program success (Headley et al., 2017).

Technology Acceptance Model

In 1989, Fred Davis and Richard Bagozzi developed the TAM. Davis et al. noticed that the employees' lack of willingness to accept new technology often stifled productivity. The study determined that two key factors indicate the level of technology acceptance—ease of use and perceived usefulness (Davis et al., 1989). The model traditionally focuses on features and characteristics of the technology as determining factors of program success (Dziak, 2020). This model applies to this study because the TAM strongly predicts technology acceptance. In addition, the two tenets of the TAM correlate to the tenets of procedural justice. These tenets of TAM covariate with this study's predictors of procedural justice.

Research shows that although the TAM is an indicator of technology acceptance, other individual subjective variables affect the TAM. Officer perceptions of usefulness and ease of use are widely subjective and affected by other factors (Rui-Hsin & Lin, 2016). However, research has indicated that officers perceive body-worn cameras as useful and easy to use (Johnson, 2021). Much like body-worn cameras, officers accept some technology and not others, which seems to be oriented specifically to perceived usefulness situationally (Wozniak et al., 2021). In high-risk situations, officers were determined not to trust the technology to make impactful decisions on their behalf

(Wozniak et al., 2021). This implies that officer acceptance of technology is relative to how participatory it is or whether the officer controls it.

Summary of Theory

If officers' views of organizational procedural justice affect their acceptance of the body-worn camera program and that acceptance directly correlates to its success, the agency can focus on the activities that could foster officers' perceptions of organizational procedural justice regarding body-worn cameras. The policy process and its associated activities correlate most closely with the pillars of procedural justice. The following activities could foster ideas of organizational procedural justice relative to body-worn camera program implementation.

- The agency informs officers that they are implementing a body-worn camera program.
- The agency involves officers in designing and implementing the body-worn camera program and associated policy.
- The agency trains officers on the agency body-worn camera policy and usage guidelines before implementation.

No one has researched the relationship between these policy and training activities related to body-worn camera acceptance or success.

Literature Review

Technology in Policing

Body-worn cameras are one of the newest technologies implemented by law enforcement. Many technologies that preceded body-worn cameras in policing have

become second nature in policing. Technological advances in policing include G.P.S. tracking systems, cruiser cameras (Jennings et al., 2015), license plate readers, social media tools, crime analysis software (Jennings at al., 2014), and Closed-Circuit Television (C.C.T.V). However, officers have not accepted body-worn cameras as readily as the other technologies. Body-worn cameras receive more media and legislative attention than previous technologies and cause trepidation for both officers and citizens alike. The cameras follow the officer everywhere, enter' people's homes, and hear conversations. Further, the media and the public know body-worn cameras are available and want the videos.

The technology acceptance model dictates that technologies' perceived usefulness and ease of use predict acceptance of new technology (Davis, 1989). Literature around body-worn cameras follows several themes. These themes correlated to the tenets of both procedural justice and TAM.

Ease of Use

Privacy Issues

Most people do not mind day-to-day underscored invasions of their privacy, especially where convenience is concerned. However, people do mind when those invasions of privacy negatively affect them, like an agency disciplining an employee for something posted on social media (Smith-Mason, 2011). Privacy and the evolution of the body-worn camera have evolved in much the same way. Some critics see body-worn cameras as an invasive tool that law enforcement uses against the citizenry to capture moments of their private lives (Adams and Mastracci, 2017). While others—especially

those in the law enforcement community, view body-worn cameras as a tool to illustrate the officer's point of view. Citizens have cell phone cameras to capture their side of the incident, while officers have body-worn cameras. Body-worn cameras can provide equality regarding access to point-of-view recording.

Officers like having body-worn cameras, which can provide officers with the confidence to initiate more contacts and increase the quality of reports and evidence (Headley et al., 2017). However, Officers are less in favor when police command staff reviews body-worn camera videos for employee policy violations. This can cause the officers to exercise less discretion in the field (Ready and Young, 2015). Further, law enforcement officers perform stressful jobs. Body-worn cameras, especially if always recording, can inherently limit the officer's Freedom of Association and Speech by preventing the officer from talking to a peer, whether to let off steam or talk through professional or personal issues (Nixon, 2017). For the officer, the perceived usefulness or benefits must outweigh privacy concerns.

Citizens benefit from body-worn cameras because the video protects them with a documented record of the officer's actions (Nixon, 2017). However, citizens are less pleased that body-worn cameras also record their activities and homes. Police encounter citizens in the most vulnerable moments, including domestic violence, sexual assaults, and mental health crises (Smykla et al., 2015). Mandatory-wear policies, particularly those requiring the camera always to be on, obligate the officer to record various incidents, many of which cause privacy concerns for the citizen. Texas law requires any subject of a body-worn camera to provide authorization before the agency can release

their image (Nixon, 2017). Ohio proposed and passed a similar law in House Bill 425. This law restricts video release for multiple reasons; the agency can only bypass the exceptions when the subject of the video provides authorization for their image to be released (H.B. 425, 2019).

To prevent public suspicion of camera usage by law enforcement, officers can notify the citizen that they are recording. However, giving notice would be left to officer discretion and susceptible to human error. Joh (2016) recommends that the notice is by way of a clear visual indicator that there is a camera actively recording, like a blinking light on the camera.

Public records and data controls are also privacy concerns regarding body-worn cameras. Police employees must manage body-worn camera data and comply with public records laws. Citizens have a right to request data within the limits of those public records laws. A lack of clear data management direction can confuse law enforcement officers and citizens, leaving the opportunity for conflict (Joh, 2016). Agencies in Queensland, Australia, started to use body-worn cameras without law or policy to determine how to protect the privacy of children and victims (Palmer, 2016). Administrators of body-worn camera programs must ensure operational functionality to benefit all stakeholders while having the foresight to develop policies and laws to handle the ancillary tasks and issues that might arise. Citizens must also weigh the benefits of body-worn cameras against the costs, but not only the philosophical costs—the financial burden on a community to implement a body-worn camera program can be astronomical.

The Costs of Implementation

Body-worn camera implementation is expensive. There are costs related to purchasing, training, storage, and personnel payroll hours spent conducting video reviews and releasing videos. Many grants subsidize the purchase of body-worn cameras, but agencies must finance the ongoing administrative costs (Smykla et al., 2015). Body-worn camera videos are often large digital files. Many vendors of body-worn cameras provide cloud storage and charge for data storage. The storage cost alone could bankrupt an agency (Bakardjiev, 2015). The average price of a body-worn camera is $100.00. For an agency with 200 officers, that is $20,000 for the purchase. For that same agency to store the video, the cost could be $100 per camera per month or $240,000 per year, a massive allocation of an agency's operating budget (Kotowski, 2016). Agencies must balance the demand for the technology with managing the tasks and expenses associated with implementation. The cost cannot be the sole determinant when the community perceives technology as beneficial.

Perceived Usefulness

The Concern over Police Brutality

Police brutality is concerning internationally (Ariel et al., 2016). In the United States, police brutality is not a new phenomenon. Documented incidents of brutality, including excessive force and citizen death, have increased with the availability of cell phone video and social media use. Social media allows users to share videos of police brutality quickly, bringing the issue of police brutality into American homes. This fast access to footage has aided in the amplification of police mistrust. Many citizens, law

enforcement, and legislators believe body-worn cameras are a step toward repairing citizen-police relations (Nixon, 2017, p. 720). By wearing body-worn cameras, officers have constant accountability. Agency leadership, the media, and the public can request videos. Many of these have ended officers' careers for the misconduct caught on camera. However, the mere presence of a body-worn camera reduces this misconduct. The officer modifies their behavior in the presence of the camera.

The Hawthorn Effect

Research suggests that officers wearing body-worn cameras experience the Hawthorn Effect, a psychological phenomenon where subjects alter their behavior based upon the knowledge that the camera is recording them (Vanden Bos & American Psychological Association, 2007). Officers equipped with body-worn cameras incur fewer uses of force and fewer complaints (Jennings et al., 2015) but are fully aware they are wearing one. When wearing a body-worn camera, officer enforcement actions decreased. However, when the officer removed the camera, complaints again increased. This decrease suggests that officers are hyper-aware that the camera is present, indicating that the cameras might always need to be present for the positive effects to continue (Sutherland et al., 2017).

Further, Headley, Guerette, and Shariati (2017) found that despite field contacts increasing, arrests decreased. A study conducted of officers in Mesa, Arizona, by Ready and Young (2015) found that an officer was likelier to conduct a traffic stop or issue a citation when wearing a body-worn camera, indicating confidence to pursue an interaction. However, the officer was less likely to arrest, frisk, or take risks to apprehend

a suspect (Ready and Young, 2015). This could cause concern that officers are not using justifiable interventions because the officer is aware that the camera is recording their interactions, which the agency can scrutinize. Approximately half of the law enforcement command staff surveyed believed that body-worn cameras would affect officers' decisions to use force and make them reluctant to use force, even when warranted (Smykla et al., 2015).

Jennings, Lynch, and Friddell (2015) conducted a 12-month pre- and post-body-worn camera implementation study. They found that when the agency randomly selected officers to wear body-worn cameras, their behavior changed more than that of officers to whom the agency assigned cameras (Jennings et al., 2015). This result could imply that the camera is not the sole catalyst for the officer's behavior. The officers modified their behavior based on how the agency assigned them the camera, which affected their feelings about wearing it. Officer perceptions of agency organizational justice, or fairness, in the assignment of body-worn cameras could be as important as the presence of the body-worn camera technology.

Aside from reductions in officer action, body-worn cameras contribute to reductions in crime, resisting arrest, and assaults on officers because the citizen is also aware of the camera. Body-worn cameras temper the actions of law enforcement officers and citizens because everyone understands that the camera is recording (Nixon, 2017). In general, assaults on officers who wear body-worn cameras decreased compared to those without cameras (Headley et al., 2017). False complaints against officers also fell due to the presence of body-worn cameras. Some citizens come to an agency to initiate a

complaint against an officer but change their mind or recollection of the incident once they discover a video exists of the encounter (Nixon, 2017). Ariel et al. (2016) conducted a two-arm experimental trial with participants assigned to a group with a camera or no camera. This study showed no change in officer behavior but increased reported assaults on officers. These results could indicate that officers were not previously reporting being assaulted but were compelled to when there was video evidence or officers tempered their behavior to the extent that they were left more vulnerable to assault.

The Delusion of Body-worn Cameras as a Panacea

Proponents of body-worn cameras often cite body-worn cameras for their ability to increase police transparency (Barkediev, 2015) and accountability (Palmer, 2016). In 2014, President Obama signed an executive order creating the President's Taskforce on 21st Century Policing. In the 2015 taskforce report, the group recommended that agencies implement body-worn camera programs to increase police transparency (COPS Office, 2015). However, body-worn cameras are not the panacea for police-community relations.

Many lawmakers and police executives see body-worn cameras as a solution to community-police relations and racial tensions. Body-worn cameras are not a panacea, and implementation does not remove the need for agencies to repair police-community relationships (Trautman, 2016). Implementing body-worn cameras alone, without fully understanding the community's underlying issues and tensions, can cause agency leadership to have a false sense of security that they have resolved the problems (Healey and Stephens, 2017). Body-worn camera implementation is not a solution to police-community tensions but a tool (Trautman, 2016).

Another benefit of body-worn cameras is the enhanced ability to prosecute cases due to video evidence. However, most incidents and arrests do not occur on-view, meaning the officer is not physically present at the place and moment of the crime except in operating vehicles intoxicated (O.V.I.) and other traffic offenses. The officer often arrives at the scene after someone has committed a crime, so the body-worn camera video is not much more than crime scene videography or photography (Palmer, 2016).

A Different Point of View

The great benefit of the body-worn camera is also one of its biggest problems. Body-worn cameras can see things that officers cannot, whether because of low light, angle (Marks, 2014), or the limits of human thought processing. Law enforcement officers make decisions with the information available to them in the moment. This information is from their point of view with their human senses—not a camera. A body-worn camera has a panoptic view that captures more than the human eye can see or the brain can process at any moment (Zimmerman, 2017). Therefore, it seems reasonable to ask, "How can an officer be held accountable for the knowledge they did not possess in the moment of decision-making?"

Further, regarding the physical placement of body-worn cameras, the camera's location can affect the viewer's experience. For example, head-mounted cameras, as used in the original United Kingdom body-worn camera trials (Associated Press, 2007), can more closely represent the officer's view since the camera turns when the officer's head turns (Zimmer, 2017). More common, however, are body-worn cameras that are chest-mounted. These cameras pose several point-of-view problems. First, an officer may turn

their head, and the camera sees something the officer does not see or vice-versa. Second, a chest-mounted camera can easily have the view obstructed by an officer's arm, steering wheel, or other objects in its view. Third, officers may intentionally adjust their stance to allow a chest-mounted camera a better view. This change of stance could be contrary to officer training and put the officer in a more vulnerable position for assault (Zimmer, 2017).

The study by Smykla, Crow, Crichlow, and Snyder showed polarized results regarding the overall approval of body-worn cameras. Command staff respondents either enthusiastically supported body-worn cameras or vehemently opposed them. Forty percent of command staff surveyed indicated that body-worn cameras would cause officers more stress and not make their jobs easier (Smykla et al., 2015).

To prevent a breakdown of organizational justice, Kyle (2017) recommends that agency leadership (1) take caution before deciding to implement body-worn cameras, (2) involve officers in the decision-making process and trials of the equipment, and (3) focus on using body-worn cameras as a training tool, rather than solely a means to discover disciplinary actions. In addition to identifying on-the-job mistakes, officers can review their actions in a discipline-free environment to improve interactions (Nixon, 2017).

Legislation and Policy

Agencies are implementing body-worn cameras faster than policies or laws governing their use and management. In 2015, the President's Taskforce on 21st Century Policing released a report of recommendations to improve community-police relations (COPS Office, 2015). However, as of 2015, only four states had laws regarding body-

worn cameras. By 2016, only nine states had issued guidance on using body-worn cameras (Joh, 2016).

Law enforcement is a decentralized profession in the United States. There is no national police force or governing body to make standardized rules or legislation for policing. This results in local and state jurisdictions developing policies on body-worn cameras, which often vary from agency to agency (Joh, 2016). If a particular county has 12 law enforcement agencies, each has the potential to have separate, distinct, and even conflicting rules and policies on body-worn cameras. For the states with proposed legislation regarding body-worn cameras, many proposed bills would require officers to wear cameras (Nixon, 2017), also known as a mandatory-wear policy. This kind of legislation could force agencies who might not need or be prepared to implement cameras to do so haphazardly. This could be dangerous if officers do not have the proper training to wear body-worn cameras.

Training

The presence of body-worn cameras is not enough to ensure successful use. Officers must know how to use the equipment and when to use or not use it. Bakardjiev (2015) recommends several types of training that should occur before officers may receive and operate a body-worn camera, including inspection, activation, deactivation, video management, public records law, how to operate the camera, and how it feels to wear the camera (Zimmerman, 2017). Training delivery necessitates lesson plans and policies (Nilson, 2007). A robust, clear, and communicated policy would help prevent issues with body-worn camera implementation (Bakardjiev, 2015). Therefore, it would

make sense that agencies must have policies and training before officers can use body-worn cameras.

Summary

Research on body-worn cameras has primarily focused on the effect of implementation on officer uses of force and citizen complaints. Much body-worn camera research focuses on the existence of a program but not how agencies implement it. A literature review reveals several common themes surrounding the benefits and complications of body-worn camera programs, including privacy concerns; costs of implementation; legislation, policy, and training; the Hawthorne Effect; concern over police brutality; body-worn cameras as a panacea; and a different point of view. These themes revolve around the principles of organizational procedural justice and the two tenets of the technology acceptance model (TAM).

Through the lens of organizational procedural justice, the relationship between body-worn cameras and the policy implementation process could provide leaders with insights on managing implementation internally to achieve the highest possible success. This research explores the potential relationships between the facets of the policy implementation process and officer acceptance, with considerations for officers' perceived usefulness and ease of use of body-worn cameras.

Chapter 3: Research Method

Police brutality has created a new expectation that agencies should capture video of police-citizen encounters. But body-worn cameras bring privacy issues for both the officer and the citizen, officers may distrust the agency's motives behind implementing body-worn cameras, and implementation can be costly to the agency. Due to these concerns, many agencies are not implementing the technology. Body-worn cameras, however, alter the officer's behavior and capture the officer's point of view. Officers are more likely to accept decisions and technology when there is trust (Kyle, 2017). Agencies attain this trust, also known as organizational procedural justice, by ensuring that the officer knows that the agency is adopting body-worn cameras in advance, understands why they are adopting them, and participates in implementation. The purpose of this study was to examine this relationship between officer involvement in the body-worn camera program design and implementation and officer acceptance of body-worn camera technology. Most research on officer acceptance of technology focuses on perceived usefulness and ease of use—tenets of the TAM. However, research also indicates that the psychological experiences of the officer affect those perceptions—experiences related closely to feelings of procedural justice at an agency. To close this gap, I conducted a quantitative, non-experimental survey. I assessed data on body-worn camera policies, training, implementation, perceived usefulness, and ease of use to see if body-worn camera programs are more successful when agencies prepare officers before implementation.

Research Design and Rationale

The research design for this study was quantitative and non-experimental. The quantitative methodology allowed the study of relationships and patterns between the global variables of program announcement and design, policy development, implementation, and training to body-worn camera acceptance and success (Rudestam & Newton, 2015). I hypothesized that officers who are aware of body-worn camera programs in advance, are involved in the program design and policy process, and are trained before implementation are likelier to perceive the technology as both useful and easy to use and will therefore be more likely to accept the body-worn camera program. I measured the hypothesis considering officer perceptions' of body-worn cameras' usefulness and ease of use, determining the effects of the policy process on overall acceptance. Agencies across the nation are implementing body-worn camera programs. Legislators and law enforcement leaders must make comprehensive policy and training decisions to provide greater consistency in agency operations. Researchers must study a broader view of causality relationships to aid policy development. Quantitative design and statistical analysis offered a broad picture from which future research could expound due to hypothesized causality relationships. This research thus promotes effective body-worn camera program implementation and help improve police-community relations.

Methodology

Population

The population studied was sworn personnel in Ohio. I limited the population to the state level because the population would fall under the same state law, the Ohio

Revised Code, and the same employee professional organization. The sampling frame was bargaining unit member sworn personnel, meaning the officers would not be administrators at their agency. Traditionally, upper-level administrators write agency policy, so I wanted to focus on bargaining unit members.

The U.S. Department of Justice conducted the last census of State and Local Law Enforcement Agencies in 2018 and has not yet published the results (Bureau of Justice Statistics, 2018). Therefore, the most recent published data are from the 2008 State and Local Law Enforcement Agencies census, released in July 2011. According to the 2008 census, Ohio had 25,992 sworn law enforcement officers (Reaves, 2011, p. 15). Using the sample size calculator found on the Creative Research Systems website, for sampling a population of 25,992, to achieve a Confidence Level of 95% and to have a Confidence interval of no more than three percent, I need a sample size of 380.

The sample was a convenience sample. I attempted to send the survey to the entire population and use the data from the responses. I employed the skip-logic function of the survey to eliminate respondents who did not meet the sample population criteria. I asked the participants the following filter questions. First, I asked, “Are you a sworn law enforcement officer in Ohio?” A negative response closed the survey. If they answered affirmatively, I asked, “Are you a bargaining unit member?” A negative response closed the survey by disqualification.

I disseminated the survey with assistance from a central Ohio fraternal organization. There were four reasons that I selected this approach:

- All organization members matched the target audience (non-administrators and law enforcement officers in Ohio).
- The organization had a pre-established means of communication with the target audience.
- Potential respondents might be more apt to trust and respond to something that came to them through their fraternal organization.
- The organization may be interested in the study's findings as it looks at this issue specifically from the vantage point of its members.

Back-Up Sampling Strategy

I implemented a backup sampling strategy when I did not receive the desired number of respondents to meet the necessary sample size of 380. In this circumstance, I emailed all agency chief executive officers, chiefs of police, or sheriffs in Ohio for whom I could obtain contact information. I explained my study's purpose and asked them to send my survey to their agency's sworn personnel. I am also a member of a statewide accreditation group that meets bi-monthly. I offered the survey to peers in this group. To enhance my research, other types and sources of data included:

- Drafted legislation regarding body-worn camera programs
- Review of body-worn camera policies across the State of Ohio
- Review of body-worn camera recommendations of significant law enforcement organizations—the Ohio Association of Chiefs of Police, the International Association of Chiefs of Police, and the Commission on Accreditation for Law Enforcement Agencies.

Instrumentation

I conducted this quantitative study via survey methodology, which offered many advantages to this study. It allowed a larger target population and increased statistical significance since I could send the survey simultaneously to thousands of potential survey participants. The survey also had a low cost of implementation. I used the Survey Monkey platform to conduct the study. The Advantage Plan costs $384 for an annual subscription, which allowed unlimited surveys and responses, skip logic, and answer-piping (SurveyMonkey.com, n.d.). Finally, because the participant submitted data independently of the researcher, it reduced the ability of researcher biases to affect the results.

I developed an original survey tool, which I vetted with a smaller pilot study within my organization of employment. To determine causal relationships, the tool was designed to determine the officers' level of trust in the agency (organizational justice), the officers' acceptance of the body-worn camera program, the perceived success of the body-worn camera program, the officers' involvement in the implementation process, and the timing of policy and training development and distribution. The survey implemented skip logic to populate questions based on the respondent's answers. For example, if the survey asked a participant if they had taken the survey before and the participant answered "yes," the survey closed. If the survey asked a participant if their agency had body-worn cameras, their answer generated one of two sets of questions based on that parameter.

Data Collection

The SurveyMonkey Advance interface maintained the data within its system. When analyzing the data, I exported the survey results into an SPSS format for statistical analysis. I provided participants with a web address with informed consent if they wanted to review the study results. This allows them to view the results without risking anonymity. I will also directly share my findings with agency CEOs and the fraternal organizations that shared the study. Agencies in the State of Ohio are implementing body-worn camera programs. Due to the organically evolving state of body-worn cameras in Ohio, I needed to collect the data for this study in a small timeframe to provide a snapshot of the state of body-worn camera programs from the officers' perception. I anticipated needing a two-month window to gather data. Policy development, training, and implementation of body-worn cameras can take a long time (Miller et al., 2014). The 2-month window was chosen to ensure enough time to obtain the data without the nature of body-worn camera programs in the State of Ohio incurring drastic change.

Pilot Study

I conducted a pilot study at my place of employment to test the survey tool's performance. Using an online calculator for the sample size for pilot studies, I determined that for a confidence level of 95% with a .05 Probability, I would need a pilot sample size of 59 people. I sent the survey through the agency email. I provide no reward for participation to comply with State of Ohio ethics laws (State of Ohio Ethics Commission, 2018).

Data Analysis

I collect demographic information to analyze data further and provide the potential groundwork for future research. I included filtering questions to ensure the respondent was qualified to continue the survey. In addition to demographic and filter data, the survey assessed the following variables:

- whether a policy is in place,
- if the agency disseminated the policy before or after cameras were assigned,
- if there was training on the program and policy,
- if the agency conducted training before or after cameras were assigned,
- if the officer knew about the body-worn camera program before it began,
- if the officer was able to participate in the design and implementation of the program and associated procedures,
- if the officer perceives the technology to be useful and
- if the officer finds the technology easy to use.

Data was downloaded into S.P.S.S. to be analyzed using M.A.N.O.V.A. (multivariate analysis of variance) to see which variables have relationships and the strength of those relationships. I also used MANCOVA to determine if any variables work together to affect the dependent variable. Table 2 reflects the categories in which survey questions fall, explains the rationale for each category, and indicates the code that will identify that category in Table 3. Table 3 lists the survey instrument questions, potential responses, and categorical coding.

Table 2

Survey Instrument Coding

Category	Purpose	Code
Baseline	Determine feelings about body-worn cameras pre-implementation	∞
Categorical	Demographic information to sort responses, including gender and rank	□
Directional	Determine which parts of the survey the respondent should receive.	□
Ethics and Disclosures	Notify and stress ethical concerns of the instrument—that it is voluntary and anonymous.	□
Filter Question	Determine if the respondent belongs to the target sample population or has completed the survey.	□
Future Analysis	Identify potential areas of future research, including other barriers to implementation or motivation for wanting body-worn cameras.	□
Organizational Procedural Justice	Provides organizational procedural justice information but is not a variable in this study	□
Theory	Asks about officers' awareness when wearing a camera and possible Hawthorn effect implications	□
Variable	Indicator of a variable of this study	□

Table 3

Body-Worn Camera Survey Instrument

Questions	Potential Responses	Purpose
Do you understand that this survey is voluntary? No one can make you take this survey.	Yes, I am voluntarily taking this survey. No, someone is making me take this survey against my will.	□
Your answers are anonymous. I am not tracking identifying information.	I understand. I do not understand or do not agree.	□
The results of this survey may be shared with agencies or organizations. Please know that the survey information is anonymous regarding the State of Ohio. The results of this survey will not be able to be linked to you. No one will know you took the survey or what agency the answers came from.	I understand and agree. I do not understand or do not agree.	□
Are you a law enforcement officer	Yes No	□
Are you a supervisor in law enforcement	Yes No	□
Have you responded to this survey previously?	Yes No	□
What is your gender?	Male Female Other	□

	Prefer Not to Answer	
How long have you been a Law Enforcement Officer?	Less than a year 1-5 years 6-10 years 11-15 years 16-20 years 21+years	□
Does your agency use body-worn cameras?	Yes No	•
Which statement best describes you?	My agency has always used body-worn cameras since I have worked there. When I started, we did not have body-worn cameras, but now we do. We have purchased body-worn cameras but have not implemented them yet.	□
How are body-worn cameras assigned at your agency?	Every officer is individually assigned one. Some officers are individually assigned one. They are available to be signed out as needed. Officers volunteer to wear them. I do not know.	□
Choose the statement that most closely represents how you felt/thought about Body-Worn Cameras Before your agency started to use them.	I thought they would be a good tool to have. I did not like the idea of them / I did not want them. I was not sure how to feel / I had not decided yet. I was indifferent / I did not care. I do not know.	∞
Did your agency have a policy on body-worn cameras before assigning them to officers for use?	Yes, we had rolled out an official policy. Yes, we had a draft policy in place. No I do not know.	□
Did your agency roll out the policy to you/other officers on the policy before assigning body-worn cameras for use?	Yes Know I do not Know	□
How did your agency roll out the policy? (Check all that apply.)	We were given it to review. We were given it to review and required to sign off on the policy. We had formal training that we had to attend either online or in-person. I do not recall	□
Which statement best describes how the policy was developed? (Check all that apply.)	I do not know. We copied a policy from another agency. The management wrote the policy. The union was allowed input into the policy development. Officers' input was solicited about the policy development.	□
Did your agency conduct formal training on body-worn camera use and operation? This could have been in-person, hands-on training, or online training.)	Yes No I do not Know	□
Which best describes how your agency conducted the training (Check all that apply)?	as we were assigned the camera formal agency training reviewed a video. Watched a PowerPoint	□
Are you assigned a body-worn camera for use?	Yes No	□

How long have you been assigned a body-worn camera?	Less than six months Six months to a year A year or more	□
Which statement best describes your awareness regarding wearing a body-worn camera?	I am aware I am wearing the camera and on video. Wearing the camera is like second nature. I forget it is there. Ido not know.	□
Does your agency have requirements for when the camera can be turned off and must be kept on?	Yes No Ido not Know	□□
Select all that apply regarding turning cameras on and off?	Our cameras must always be on all the time. Our cameras must be on when we are interacting with suspects/violators. Our cameras must be turned on when interacting with civilians outside the agency while on duty. Our cameras automatically turn on when we activate lights and sirens. Our cameras automatically turn on when we get near another officer who has activated their camera. None of these situations apply.	□□
How has your agency used camera video?	I do not know. Media requests Public records requests They randomly review videos for policy compliance. They review all videos regarding Uses of Force None of these apply	□□
Now that your agency has been using body-worn cameras, which statement best reflects how you feel about them?	They are a good tool to help me do my job. I am indifferent about their use. I do not like wearing a B.W.C. None of the above	•□
Why do you think body-worn cameras are a good tool? (Select all that apply.)	They help me remember details when writing reports. The camera catches details I may have missed in person. They show the situation as it was happening. People I interact with (suspects, citizens, etc.) behave better when they know they are on camera. It helps my agency be more transparent. It increases community trust.	□
Why don't you like wearing a body-worn camera?	The camera catches details I may have missed in person. I feel like I have to wear it because people do not trust officers. People do not want to talk to me as openly on camera.	□
Do you find body-worn cameras beneficial to your job?	Yes No I don't	
Do you find body-worn cameras easy to use?	Yes No I don't know	
Do body-worn cameras help you do your job?	Yes	

	No I don't know	
Do body-worn cameras affect citizen action?	Yes No I don't know	
Why doesn't your agency use body-worn cameras?	I do not know. The cameras cost too much. The storage of video costs too much There would be too many video requests for our personnel capabilities. They are unsure how it would change how we operate. The officers do not support it. None of these reasons	□
Would you like your agency to employ the use of body-worn cameras?	Yes No I do not Know	□
Why would you like to see your agency use body-worn cameras (check all that apply)?	I think the video would protect the officers from liability and false accusations. I think we should use whatever equipment we have at our disposal. I think if other agencies are using them, we should be.	□□
How do you feel about your agency (Check all that apply)?	They care about the officers. They do not care about the officers. They trust the officers. They do not trust their officers.	□
Do you feel your agency provides the resources to do your job well?	Yes No I am not sure	□
Do you feel officers at your agency can provide input into major decisions affecting the agency?	Yes No I do not Know	□
Do you believe that officers at your agency are well-informed about decisions being made and the reason for those decisions?	Yes No I do not Know	□
With a national spotlight on police/citizen interactions, which comments reflect what you believe regarding body-worn cameras (Check all that apply)?	Body-worn cameras protect officers from false allegations. Body-worn cameras bring clarity to the incident. Body-worn cameras cause confusion because they see more than the officer can see at any moment. Body-worn cameras make citizens/suspects behave better during encounters. Body-worn cameras help provide transparency. Body-worn cameras interfere with the performance of our duties.	□

Threats to Validity

Many law enforcement agencies are scrutinized, and officers fear physical or verbal attacks. This could have caused response bias or officers responding in ways they believed were socially acceptable. I tempered this threat by ensuring anonymity in the survey instrument.

Ethical Procedures

The survey instrument was anonymous, and no data was collected that could link a respondent to their data. I conducted the surveys with a voluntary convenience sample. Ethical concerns surround only the solicitation of data. When using the fraternal organization, there was the potential for officers to think the survey was for the organization. I tempered this by stressing that this survey is academic research not associated with or conducted on behalf of the organization. I also stressed that it was voluntary. When agency leadership (chiefs or sheriffs) disbursed the survey, there was a potential for officers to think they were required to complete the survey. The survey tool was designed to begin with question one, stressing that the survey was voluntary and allowing the respondent to agree to the terms, ending the survey. When the state accreditation organization disseminated the survey, there was a chance that members could feel pressured to have their agencies complete the survey since I am a leader in that organization. I stressed that the survey was voluntary and anonymous and for the email's recipient only, not to be disbursed within their agency, per IRB guidance. IRB approval was granted and assigned # 03-16-23-0074170.

Informed Consent

I included a consent statement as part of my SurveyMonkey survey. I explained who I am and the purpose of my research. I explained the anonymity of the study. I explained the benefits I hope to achieve through the survey. I explained that the survey was voluntary and there was no compensation. I explained that the fraternal organization and agency leadership assisted in the survey rollout but did not conduct or sponsor it. Lastly, I asked if the potential participant agreed with the terms and was willing to answer the survey questions. If the participant answered "yes," they continued the survey. If they replied “no," the survey closed by disqualification. Participants could also close the survey at anytime and cease participation without penalty.

Summary

This research was a quantitative study using survey methodology. The sample was a convenience sampling of officers in the State of Ohio. The survey was voluntary and anonymous, and I took steps to address ethical issues and limitations. I provided respondents with informed consent for the study. I conducted the study using Survey Monkey ®, keeping it open for 60 days, with the resulting data downloaded into an S.P.S.S. format. I analyzed the data in S.P.S.S using M.A.N.O.V.A. (multivariate analysis of variance) to see which variables have relationships and the strength of those relationships. I also used MANCOVA to determine if any variables work together to affect the dependent variable. The variables analyzed were:

- whether a policy is in place,

- if the agency disseminated the policy before or after cameras were assigned,
- if there was training on the program and policy,
- if the agency conducted training before or after cameras were assigned,
- if the officer knew about the body-worn camera program before it began,
- if the officer was able to participate in the design and implementation of the program and associated procedures,
- if the officer perceives the technology to be useful and
- if the officer finds the technology easy to use.

By analyzing the policy implementation process through the lens of organizational procedural justice theory, I hoped to identify if relationships existed between the policy process and the acceptance and perceived success of body-worn camera programs. This relationship could allow agency leadership to thoughtfully develop and execute an implementation strategy that will encourage the success of body-worn camera programs and positively impact police-community relations.

Chapter 4: Results

This study was concerned with the relationships and patterns between the global variables of the policy implementation process and body-worn camera program acceptance from the officer's point of view. I hypothesized that when agencies inform and prepare line-level officers for body-worn camera implementation through the policy process and training, officers will perceive body-worn cameras as more favorable and use them more. Due to the causality relationships hypothesized, quantitative design and statistical analysis best provided the broad picture from which future research could expound (see Rudestam & Newton, 2015). I analyzed this relationship through the lens of the TAM to determine if perceived usefulness and ease of use increase or decrease with the officers' perceptions of organizational procedural justice. The main variables analyzed were:

- whether a policy is in place,
- if the agency disseminated the policy before or after cameras were assigned,
- if there was training on the program and policy,
- if the agency conducted training before or after cameras were assigned,
- if the officer knew about the body-worn camera program before it began,
- if the officer was able to participate in the design and implementation of the program and associated procedures,
- if the officer perceives the technology to be useful and
- if the officer finds the technology easy to use.

In this chapter, I will review the pilot study and findings, the data collection process, the data analysis process, and the results. The data review is organized by research question and hypothesis with additional sections for theory. Information will be summarized before reviewing implications and impact in Chapter 5.

Pilot Study

I conducted a pilot study to test the new survey tool. I conducted the pilot study at my place of employment at that time. To avoid conflict of interest, skewing of the data due to participants knowing me, and to protect the participants' confidentiality, I did not analyze or keep the pilot study results as part of the final study. The pilot study was sent via email and explained that participants would have an opportunity to participate in the final study if they chose. Informed consent was provided in the email and at the introduction of the survey tool.

The survey was designed via SurveyMonkey and disbursed using an HTML link. To achieve significance for the pilot study population, I needed 53 responses to achieve a 95% degree of significance. Fifty-seven officers participated in the pilot study, achieving the needed significance level. The survey tool functioned as anticipated. Five persons responded they were not police officers, resulting in the survey closing. Two people responded they were managerial staff, closing the survey, because this study focuses on body-worn camera perceptions from non-managerial police officers. No one responded they had taken the survey previously, which would have also caused the survey to close.

Demographics

Participants in the pilot study were predominantly male, which is consistent with the target population being predominantly male. However, females participated at a higher rate than males compared to their sample size. Table 4 shows the level of participation in comparison to the sample. Two participants responded as belonging to the category of "other." They were given an opportunity to elaborate in short answer form, though it was not required. One chose not to respond, and one reported identifying as a "Lobster." Although leaving this option as a response allowed participants to insert inaccurate or comical responses, I believed it was more important to leave the option to ensure that non-gender-conforming persons were provided an opportunity to be represented. No questions were included regarding race and ethnicity. Although this demographic may be interesting for future studies, I wanted to avoid the topic of race in this study as there was no evidence in the literature review indicating race or ethnicity might be a factor in technology acceptance. Further, I did not want officers to view the survey questions through the lens of race or ethnicity.

Table 4

Pilot Study Responses Compared to Sample Population

Gender	Pilot Sample Size Population	Pilot Study Responses	Percentage of Participants	Percentage compared to Population
Male	63	38	76.0%	60.3%
Female	11	11	22.0%	100.0%
I prefer not to answer	NA	2	2.0%	NA
Other	0	2	2.0%	NA

Question 8 asked participants how long they had been a police officer. Table 5 summarizes their responses. The variety of responses indicated that the survey tool was being used by several participants regarding length of service and likely age. It is important to note that I deliberately did not inquire about the participants' age to avoid any identification that could compromise anonymity.

Table 5

Pilot Participant Reported Length of Service

Length of Service	Percentage of Participants
Less than a year	0%
1-5 Years	10%
5-10 Years	32%
10-15 Years	14%
15-20 Years	14%
20+Years	30%

Question 9 asked participants if their agency uses body-worn cameras. Ninety percent of participants indicated "yes," and 10% indicated "no." The pilot population came from one agency, so the responses should have been 100% affirmative. However, since this was known to be a pilot study and the results would not be analyzed as part of the final study, participants may not have felt the need to answer accurately.

Question 10 asked participants to categorize themselves regarding their experience with body-worn cameras. The results were split between two categories, accurately reflecting the experience between newer and veteran officers. Table 6 provides the response breakdown compared to the officers' reported years of service. The

breakdown accurately reflects the population working at an agency that has had body-worn cameras for more than 5 years, as was the case with the pilot agency.

Table 6

Body-Worn Camera Experience Versus Length of Service

Experience Category	Participants	Length of Service	Participants
My agency has always had body-worn cameras	6	0-5 Years	5
When I started, we didn't have body-worn cameras, but now we do.	39	5+ Years	45
Did Not Answer	12	Did Not Answer	6

At the point of the pilot, there were no indications any corrections were needed to the disbursement and collection process or tool. There were no issues with participants receiving the survey, achieving sample size, or obtaining results. I incurred one setback due to a calculation error on my part. I had erroneously calculated 98% significance when proposing the sample size for the final study, resulting in a proposed sample size of 1,095. This error was identified during the pilot, although it did not affect the pilot study. Per university regulations, I contacted the IRB to request I move forward with the corrected sample size for 95% significance, which was 380. I received approval to move forward without reapplication. Therefore, I could proceed with data collection for the final study.

Data Collection

I opened the data collection period in June. I recruited participants through a three-tier process. First, a local police fraternal organization agreed to share the study with their membership. I provided an email draft for the organization to share via email. I

made it clear to the organization that I should not be copied on the email as I did not want to have any access to the members' email addresses to preserve their anonymity. I allowed a week to determine the flow of responses before initiating tier two of the recruitment process.

The second tier of the recruitment process included sending my study, with another email template, which had been approved by the IRB, to the chiefs of police and sheriffs in the State of Ohio. I clarified to the organizational leadership that it was their choice to share the study and that officer participation must remain voluntary with no coercion. I also stressed I should not be copied on the email as I did not want to have any access to the members' email addresses to preserve their anonymity. There were over 900 chiefs who I attempted to contact, split between two mass communications. A third email was sent to the 88 county sheriffs.

An unforeseen issue arose that could only be identified when sending the communication officially. Many of the contact addresses were returned undeliverable. The list of active chiefs and sheriffs was obtained from directories maintained and posted by the Ohio Attorney General's Office, but the lists were significantly out of date. I compiled the outdated email addresses to address these issues, cross-referenced them to the jurisdiction, and researched the correct name and contact information. I resent the original communication to the corrected email addresses. Another unforeseen issue arose, which was not identifiable through the pilot. Several chiefs of police emailed me and thanked me for including their agency but apologized for not having body-worn cameras and, therefore, being unable to help. To each, I responded explaining that the survey was

designed to collect officer perceptions regardless of their experience with body-worn cameras. Each thanked me for quickly responding and said they would send the study. If this study were repeated, I would include clarifying information in the pre-approved letter to the leadership. This may prevent the necessity for implementing a third tier of recruitment.

I activated the third tier of recruitment a week after tier two. The third and final tier included sharing the study with members of the State of Ohio's accreditation association for consideration to participate if the recipient was a member of the desired population. The study remained open for 60 days, at which time the minimum response rate was met. Three hundred and eighty-one officers completed the survey before the data was downloaded.

The 381 participants met the minimum response rate for 95% statistical significance. Five hundred thirteen people took the survey, but the minimum response rate was only from completed responses. Overall, 76% of people who started the study completed it. Aside from abandonment, the survey closed when a participant answered they were not a member of the sample population through filter questions. Fifteen persons were disqualified for not being a police officer. Eighty-two were disqualified for being a manager or member of the command staff. The remaining 35 incomplete surveys were from people who left the survey after beginning and didn't return to complete it.

Aside from the previously mentioned sample size and follow-up communications from the chiefs of police, there were no additional discrepancies in the data collection

plan. There were changes in planned analysis methods, which will be discussed in another section of this chapter.

Descriptive Statistics

Like the pilot study, females responded at a higher percentage than representative of the overall population. Most respondents were male, consistent with most Ohio law enforcement officers being male. Two respondents said they identified as neither male nor female, one answering polygender and another omnigender. Six respondents preferred not to provide a gender response. According to the Census of State and Local Law Enforcement Agencies, conducted in 2018 by the Bureau of Justice Statistics, 10.2% of Ohio law enforcement officers are female. It is the most current census to-date. Participants in this study identified as female at a rate of 14.2%, 4% higher than their overall population representation. However, since this study only focuses online-level officers and first-line supervisors, women may represent a larger proportion of the overall population since most command staff and other police managers are male. Table 7 shows the response rate compared to the overall population concerning gender.

Table 7

Participant Gender

Gender	Sample Size Percentage*	Estimated population**	Final Study Responses	Percentage of Participants	Percentage participating compared to the Population
Male	89.8%	23,051	319	83.7%	1.3%
Female	10.2%	2,618	54	14.2%	2.0%
I prefer not to answer.	NA		6	1.6%	NA
Other	NA		2	0.5%	NA

*Based on 10.2% of the Ohio law enforcement population being reported as female.
**Based upon the estimated percentage and the overall reported population in the BJS census.

No questions were included regarding race and ethnicity. Although this demographic may be interesting for future studies, I wanted to avoid the topic of race in this study as there was no evidence in the literature review indicating race or ethnicity might be a factor in technology acceptance. Further, I did not want officers to view the survey questions through the lens of race or ethnicity.

The participants represented all categories of work experience. There were no scale questions on age to avoid any chance of breaching anonymity. Years of experience was used instead to gauge an officer's categorical membership as a veteran or new officer. Table 8 represents participants' responses regarding experience. Nine participants were on the job for less than a year. This low number could be attributed to probationary officers not yet being members of fraternal organizations, limiting their exposure to the survey. It could also be attributed to probationary officers' fear of upsetting anyone during their unprotected status and, therefore, choosing not to respond. There were no follow-up questions to this effect to confirm these suppositions. Categories were somewhat equally dispersed. If the categories are transformed, a more equitable distribution pattern is identified. See Table 9 for the transformed distribution. Of interesting note, the percentages of each category are similar to response rates in the pilot study.

Table 8

Participant Reported Length of Service

Length of Service	Number of Participants	Percentage of Participants	Pilot study percent of participants
Less than a year	9	2.4%	0%
1-5 Years	73	19.2%	10%
5-10 Years	92	24.1%	32%

10-15 Years	49	12.9%	14%
15-20 Years	49	12.9%	14%
20+Years	109	28.6%	30%

Table 9

Transformed Distribution of Participants' Reported Length of Service

Years of Service	Number of Participants	Percentage of Participants
0-5	82	21.5%
5-10	92	24.1%
10-20	98	25.7%
20+	109	28.6%

Another important categorical measure is whether the officer uses body-worn cameras. Most respondents indicated affirmatively. However, due to the previously mentioned communication from law enforcement leadership thinking they could not share the study if law enforcement officers did not use body-worn cameras, it can be assumed that some, if not many, chiefs and sheriffs did not contact me. Additionally, these same chiefs and sheriffs did not share the study, which could limit the number of officers who do not use body-worn cameras exposure to the study. To correct this in future research, one might create two separate surveys for each population (using and not using body-worn cameras) and then attempt to discern which leadership should receive which survey. No such list delineated which agencies had or did not have body-worn cameras. Table 10 summarizes the responses regarding body-worn camera use. Since the sample population did not separate the actual population between those having and not having body-worn cameras, and the response rate for having body-worn cameras being so

high, it is assumed that the participants responding affirmatively meet or surpass being representative of the larger population.

Table 10

Participants who identified their agency as having body-worn cameras

Years of Service	Number of Participants	Percentage of Participants
Yes	348	91.3%
No	82	8.7%

Those with body-worn cameras were asked which category of response best described their experience with body-worn cameras, ranging from always having body-worn cameras to having purchased but not yet implemented body-worn cameras. Table 11 shows the breakdown of the officer's experience. By far, most officers describe their agency as not previously having body-worn cameras but having implemented them during the officer's career. The next representative group is those who have always had body-worn cameras. Those officers who report always having body-worn cameras are likely newer officers. For example, 78 officers report always having body-worn cameras, and 73 officers fall between one and five years of service. As body-worn cameras have been steadily implemented since recommended by the President's Taskforce on 21st Century Policing (2015) approximately eight years ago, it would make sense that most officers report body-worn cameras being implemented mid-career.

Table 11

Participants Experience Using Body-Worn Cameras

Years of Service	Number of Participants	Percentage of Participants
My agency has always used body-worn cameras since I have worked there.	78	20.5%
When I started, we didn't have body-worn cameras, but now we do.	260	68.2%
We have purchased body-worn cameras but haven't implemented them yet.	5	1.3%
Those who reported not having body-worn cameras	33	8.7%
Other	5	1.3%

Data Analysis

Although the pilot study revealed no issue with data collection or preliminary analysis, not all 100+ possible variables were tested before the final study implementation. Therefore, I did not identify that the variables would need to be transformed for analysis due to the design of several questions. This was due to skip logic and several questions being formatted as multiple selection instead of multiple choice. To overcome these issues, I transformed the variables into a format that could be used in MANOVA and Linear Regression forms of analysis. For example, if a question asked how an agency uses body-worn camera video, multiple options ranged from media requests to policy compliance reviews. Each option was transformed into a new variable with a yes or no option. Those who selected media request as an option were counted as a "yes" value for the new variable "agency uses video for media requests," and those who did not select it were counted as a "no" value.

Further, several questions asked questions in two phases. For example, “did your agency disseminate the policy on body-worn cameras before implementation?” A “yes” response was followed by a question asking how the policy was disseminated. Asking in two ways could have skewed the follow-up question data; therefore, the variables were transformed, adding “the agency did not disseminate the policy before implementation” as an option for the follow-up question and transferring the “no” values for the prior question into that category. This was time-consuming, but it was important to be able to run tests appropriately. The remaining variables were all checked to ensure that the coding of the responses was in proper order for comparisons of means tests to be performed with meaning. The survey tool will be modified for future use to prevent the necessity to transform these variables.

MANOVA and MANCOVA were the only planned methods of analysis for the data. However, due to the variables being categorical, with values only delineating progression, it was determined that the main testing method should be linear regression. To determine the relationship between variables of how the training was conducted to officer acceptance of body-worn cameras, linear regression shows (1) if there is a significant relationship, (2) whether that relationship is positive or negative in influence, and (3) the weight or value of that relationship. I completed linear regression tests on all primary variables and selected others for testing based on the results of the main tests. Further MANOVA was completed to show the relationship between the mean values of variables of those showing significant relationships in linear regression.

Results

I performed 271 linear regression tests, focusing on the variables indicative of trust, acceptance, the Technology Acceptance Model, the policy process, and the training process. I coded variables for ease of displaying results. The coding of variables is in Table 12. The full table of linear regression tests is found in Appendix 1, Linear Regression Tests. After running all linear regression tests, I sorted the data to identify trends. The test results can also be found within this chapter to address the research questions and hypothesis. It is assumed that the sample is representative of the population at large regardless of whether participants use or do not use body-worn cameras.

Table 12

Coding of Variables

Variable	Coded Variable
Officers Believe Cameras Affect Citizen Action	ACA
The agency conducted Training on BWC.	ACT
The officer believes they are provided sufficient resources to do their job.	APR
The agency had Requirements for turning cameras on and off	AROO
The officer believes agency leadership trusts officers	ATO
Officer awareness of wearing the camera	AWC
Officer Finds BWC Beneficial	BEN
Officer finds that Citizens and Suspects Behave Better When on Camera	CSB
Officer Believes BWC modifies and Citizen Suspect behavior (2)	CSB2
The officer believes BWC causes confusion because it sees more than the officer.	CSM
The officer finds BWC catches details that the officer may have missed	CTM
The officer doesn't Like BWC	DNL
Officer Finds BWC Easy to Use	ETU
How BWC was assigned	HCA
How body-worn cameras are assigned	HCA
Officer Finds BWC Helpful to their Job	HEL
How long BWC Assigned	HLA
How Policy was Developed	HPD
How Policy was Received	HPR
Officer finds BWC Video Helps Remember Details when Writing Reports	HRD
How BWC Training was conducted	HTC
Officer finds BWC improves Community Trust	ICT
The officer believes BWC interferes with performing their duties	IPD
Officer Doesn't Know How Videos are Used	ODK
The officer believes their input is solicited in major decisions	OIR
The officer believes they are well-informed about decisions being made and why	OWI
Officer Believes BWC protect officers from false accusations	PFA
The agency had a Policy in Place	PIP
The policy was Implemented Before Cameras	PRO
Agency uses Video for Public Records Requests	PRR
Agency Conducts Random Video Review for Policy Compliance	RVR
The officer finds the BWC shows the situation as it is happening	SSH
Type of Agency Requirements to Turn Cameras on and off	TAR
The officer finds that BWC improves agency transparency	TRA
The officer believes BWC allows for transparency	TRA2
The officer believes BWC allows for transparency	TRA2
Officer trusts agency leadership to make decisions on their behalf	TRU
Agency Review Incidents with Uses of Force	UOF
Agency Uses Video for Media Requests	VMR
Officer Believes BWC provides clarity to incidents	VPC

Research Question 1

Research question one (RQ1) asks, "What is the relationship between agencies informing officers before body-worn camera implementation and officer acceptance of the body-worn camera program?" To assess whether the officers were informed of the body-worn camera program before, I tested the independent variables of whether the agency had a policy in place (PIP), whether the policy was implemented before cameras (PRO), and how the policy was developed (HPD). I also looked at the officers' general feelings of being informed, including the variable the officer believes they are well-informed about decisions being made and why (OWI). To assess officer acceptance, the variables of Level of BWC acceptance (ACC), Officer finds BWC beneficial (BEN), Officer finds BWC helpful to their job (HEL), Officer finds BWC Video Helps Remember Details when Writing Reports (HRD), Officer Believes BWC protect officers from false accusations (PFA), and Officer Believes BWC provides clarity to incidents (VPC) were applied as the dependent variables. Table 13 provides the results of the linear regression tests on these variables.

The regression results indicated a significant relationship between the independent variable of How the policy was developed (HPD) and the dependent variable of Officer Believes BWC provides clarity to incidents (VPC). The regression results indicated that only 1.9% of the variance in the dependent variable was caused by the independent variable ($R2=.019$, $\beta=-.136$, $F=4.619$, $p=.0333$). The regression results also indicated a significant relationship between the independent variable of Policy was Implemented before cameras (PRO) and the dependent variable of Officer Believes BWC

protects officers from false accusations (PFA). The regression results indicated only 2.4% of the variance in the dependent variable was caused by the independent variable (R2=.024, β=-.154 F=46.518, p=.011). Although significance was found in these two areas, their lack of strength combined with no significance in other tests does not support a relationship between agencies informing officers before body-worn camera implementation and officer acceptance of the body-worn camera program.

Table 13

Linear Regression for RQ 1

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect
HPD	ACC	0.022	0.001	0.123	0.726	No
HPD	BEN	0.048	0.002	0.495	0.482	No
HPD	HEL	0.063	0.004	0.862	0.354	No
HPD	HRD	0.000	0.000	0.000	1.000	No
HPD	PFA	0.037	0.001	0.333	0.565	No
PIP	ACC	0.045	0.002	0.683	0.409	No
PIP	BEN	-0.045	0.002	0.618	0.432	No
PIP	HEL	-0.041	0.002	0.526	0.469	No
PIP	HRD	0.077	0.006	2.008	0.157	No
PIP	PFA	-0.050	0.002	0.848	0.358	No
PIP	VPC	-0.093	0.009	2.975	0.085	No
PRO	ACC	0.084	0.007	1.890	0.169	No
PRO	BEN	0.002	0.000	0.001	0.981	No
PRO	HEL	0.036	0.001	0.315	0.575	No
PRO	HRD	-0.014	0.000	0.052	0.820	No
PRO	VPC	-0.071	0.005	1.353	0.246	No
HPD	VPC	-0.136	0.019	4.619	0.033	Yes
PRO	PFA	-0.154	0.024	6.518	0.011	Yes

Research Question 2

Research question two asks, “What is the relationship between officers having an opportunity to participate in body-worn camera program design and officer acceptance of the body-worn camera program?” To assess officers having the opportunity to participate, I implemented the independent variables of How Policy was Developed (HPD) and

Officer believes their input is solicited in major decisions (OIR) and tested their effects on the dependent variables of Level of BWC acceptance (ACC), Officer finds BWC beneficial (BEN), Officer finds BWC helpful to their job (HEL), Officer finds BWC Video Helps Remember Details when Writing Reports (HRD), Officer Believes BWC protect officers from false accusations (PFA), and Officer Believes BWC provides clarity to incidents (VPC).The results of the linear regression tests are displayed in Table 14.

Again, I only found two significant relationships in the linear regression tests. Regarding the independent variable of How the policy was developed (HPD) and the dependent variable of the officer believes the video provides clarity (VPC), a significant relationship was found, but for only 1.9% of the change (R2=.019, β=-.136, F=4.619, p=.033). Regarding the independent variable of Officer believes their input is solicited in major decisions (OIR) and the dependent variable of Officer finds BWC beneficial (BEN), a significant relationship was found, but accounts for only 1.7% of the change (R2=.017, β=.130, F=5.325 p=.022). Although significance was found in these two areas, their lack of strength combined with no significance in other tests does not support a relationship between officers having an opportunity to participate in the body-worn camera program design and officer acceptance of the body-worn camera program.

Table 14

Linear Regression for RQ 2

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect
HPD	ACC	0.022	0.001	0.123	0.726	No
HPD	BEN	0.048	0.002	0.495	0.482	No
HPD	HEL	0.063	0.004	0.862	0.354	No
HPD	HRD	0.000	0.000	0.000	1.000	No
HPD	PFA	0.037	0.001	0.333	0.565	No

OIR	ACC	0.098	0.010	3.336	0.069	No
OIR	HEL	0.092	0.008	2.650	0.105	No
OIR	HRD	-0.067	0.004	1.700	0.193	No
OIR	PFA	-0.053	0.003	1.072	0.301	No
OIR	VPC	-0.095	0.009	3.434	0.065	No
HPD	VPC	-0.136	0.019	4.619	0.033	Yes
OIR	BEN	0.130	0.017	5.325	0.022	Yes

Research Question 3

Research Question three asks, "What is the relationship between officer training on body-worn camera policy and usage and their acceptance of the body-worn camera program?" To analyze this research question, I divided it into two sets of tests: policy training and body-worn camera operator training. The results of the tests are displayed in Table 15, Linear Regression for RQ3 Policy, and Table 17, Linear Regression for RQ3 Training.

Policy

To assess policy training's effect on the acceptance of body-worn cameras, I focused on the independent variables of the agency having a policy in place (PIP), the Policy being implemented before cameras (PRO), and how the policy was received (HPR). These variables were tested for how the affect the dependent variables of Level of BWC acceptance (ACC), Officer finds BWC beneficial (BEN), Officer finds BWC helpful to their job (HEL), Officer finds BWC Video Helps Remember Details when Writing Reports (HRD), Officer Believes BWC protect officers from false accusations (PFA), and Officer Believes BWC provides clarity to incidents (VPC).

Table 15

Linear Regression for RQ 3 on Policy

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect
PIP	ACC	0.045	0.002	0.683	0.409	No
HPR	ACC	-0.107	0.011	2.738	0.099	No
HPR	BEN	-0.091	0.008	1.792	0.182	No
HPR	HEL	-0.125	0.016	`3.398	0.067	No
HPR	VPC	0.063	0.004	0.938	0.334	No
PIP	BEN	-0.045	0.002	0.618	0.432	No
PIP	HEL	-0.041	0.002	0.526	0.469	No
PIP	HRD	0.077	0.006	2.008	0.157	No
PIP	PFA	-0.050	0.002	0.848	0.358	No
PIP	VPC	-0.093	0.009	2.975	0.085	No
PRO	ACC	0.084	0.007	1.890	0.169	No
PRO	BEN	0.002	0.000	0.001	0.981	No
PRO	HEL	0.036	0.001	0.315	0.575	No
PRO	HRD	-0.014	0.000	0.052	0.820	No
PRO	VPC	-0.071	0.005	1.353	0.246	No
HPR	HRD	0.187	0.035	8.638	0.004	Yes
HPR	PFA	0.208	0.043	10.816	0.001	Yes
PRO	PFA	-0.154	0.024	6.518	0.011	Yes

The linear regression tests show a significant relationship between three sets of variables. The policy was implemented before cameras (PRO) and How the Policy was received (HPR) both affected the dependent variable of Officer Believes BWC protect officers from false accusations (PFA). PRO affected PFA, accounting for 2.4% of the change ($R2=.024$, $\beta=-1.54$, $F=6.518$ $p=.011$). HPR affected PFA, accounting for 4.3% of the change ($R2=.043$, $\beta=.208$, $F=10.816$ $p=.001$). Due to the patterns identified within these three variables, I conducted post hoc testing, using univariate analysis, with two independent variables or fixed factors (PRO and HPR) and one dependent variable (PFA).

I repeated tests for univariate analysis and confirmed that the two independent variables of PRO and HPR were covariates in the model ($p<.001$). The dependent

variable, Officer Believes BWC protects officers from false accusations (PFA), was recorded in responses of "No" with a value of 0.00 and "Yes" with a value of 1.00. Table 16 shows the change in means of the dependent variable of PFA when PRO and HPR are applied as coefficients.

Table 16

Combined Effect on Protection from False Accusations

HPR	PRO	Mean Value for PFA
Review Only	Draft Policy was in place	.833
	Official Policy was in place	.853
Reviewed and Required to Sign	Draft Policy was in place	.933
	Official Policy was in place	.985
Reviewed and had some training	Draft Policy was in place	.971
	Official Policy was in place	.998
Formal training conducted	Draft Policy was in place	1.00
	Official Policy was in place	1.00

The effect of the coefficient shows that Officer belief that BWC protects officers from false accusations (PFA), an indicator of body-worn camera acceptance, increases across the variables as the formality of the policy and the policy training increases. Reviewing a draft policy provides a mean of .833, while reviewing an official policy provides a slightly higher mean of .853. Conversely, those provided formal training had a mean of 1.00 regardless of whether the policy was draft or official.

How the Policy was received (HPR) affected both dependent variables of Officer finds BWC Video Helps Remember Details when Writing Reports (HRD) and Officer Believes BWC protects officers from false accusations (PFA). HPR affected PFA, accounting for 4.3% of the change ($R2=.043$, $\beta=.208$, $F=10.816$ $p=.001$). HPR affected HRD, accounting for 3.5% of the change ($R2=.035$, $\beta=.187$, $F=8.638$ $p=.004$). Due to the

variable effect on multiple dependent variables, I conducted post hoc tests using multivariate analysis (MANOVA).

I already conducted univariate testing on HPR and PFA, so I tested HPR and HRD using a one-way ANOVA, which did not show significance between groups (p=.006). Looking at multiple comparisons, it could be seen that there was a significant difference between the specific factors of having formal training and conducting a policy review with some training (p=.029).Looking at the means for those two specific actions, conducting a review with some method of training produced a value of .4211, while having formal training produced a value of .7021 when considering how policy training affects officers remembering details in reports.

User Training

To assess user or operator training on officer acceptance of body-worn cameras, I focused on the independent variables of Agency Conducted Training on BWC (ACT) and How BWC training was conducted (HTC). These were compared with the dependent variables of the level of BWC acceptance (ACC), Officer finds BWC beneficial (BEN), Officer finds BWC helpful to their job (HEL), Officer finds BWC Video Helps Remember Details when Writing Reports (HRD), Officer Believes BWC protect officers from false accusations (PFA), and Officer Believes BWC provides clarity to incidents (VPC). The results of the linear regression tests are displayed in Table 17.

Table 17

Body-Worn Camera Training Effects on Indicators of Technology Acceptance Model

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	*p*	Significant Effect

ACT	ACC	0.098	0.010	3.340	0.068	No
ACT	BEN	0.012	0.000	0.048	0.826	No
ACT	HEL	0.012	0.000	0.042	0.837	No
ACT	HRD	-0.085	0.004	2.501	0.115	No
ACT	PFA	-0.061	0.004	1.278	0.259	No
ACT	VPC	-0.010	0.000	0.035	0.851	No
HTC	BEN	-0.075	0.006	1.647	0.200	No
HTC	HEL	-0.085	0.007	2.131	0.145	No
HTC	HRD	0.089	0.008	2.516	0.114	No
HTC	ACC	-0.203	0.041	13.751	<.001	Yes
HTC	PFA	0.113	0.018	5.735	0.017	Yes
HTC	VPC	0.186	0.034	11.398	<.001	Yes

The linear regression testing produced significant results among three sets of variables. In each instance, the independent variable showing an effect was How the training was conducted (HTC), which showed a significant effect on the dependent variables of the level of acceptance (ACC), officer Believes BWC protects officers from false accusations (PFA), and the officer believes BWC provides clarity to incidents (VPC).

HTC affected ACC, accounting for 4.1% of the change ($R2=.041$, $\beta=-.203$, $F=13.751$ $p<.001$). HTC affected PFA, accounting for 1.8% of the change ($R2=.018$, $\beta=.113$, $F=5.735$ $p=.017$). HTC affected VPC, accounting for 3.4% of the change ($R2=.034$, $\beta=.186$, $F=11.398$, $p<.001$). Due to an independent variable affecting multiple dependent variables, I conducted a univariate analysis, ANOVA.

The ANOVA revealed that between groups significance was only found with ACC ($p=.004$). Therefore, I compared the means within that group by focusing on the overall acceptance of body-worn cameras with ACC. For ACC, the values ranged between 1.00 (Overall Acceptance), 2.00 (Indifference), 3.00 (Dislike), and 4.00 (Unsure). I selected cases only to count values less than 4.00 as I was not interested in

those unsure and didn't want it to skew the interpretation of the means. I performed a one-way ANOVA again with the selected cases. The Tests of Homogeneity of Variances showed significance between groups ($p<.001$). The ANOVA showed significance between groups ($p<.001$). Looking at the multiple comparisons, I found significance in the relationships between Officers who were not trained with those who had trained one-one-one as assigned a camera ($p=.018$) and those where the agency conducted formal training ($p<.001$). Table 18 displays the mean values for the level of acceptance according to how training was conducted. For ACC, the values ranged between1.00 (Overall Acceptance), 2.00 (Indifference), and 3.00 (Dislike). Although the means do not indicate an overall dislike of cameras, those who are not trained deviate more significantly from acceptance (value of 1.00) than those trained with formal training. Further, those who viewed a self-led PowerPoint approached acceptance even further.

Table 18

Officer Level of Acceptance Based Upon Method of Training

Method of Training	Mean of Level of Acceptance
Reviewed PPT on their own	1.200
Had Formal Training*	1.279
Reviewed a Video	1.347
Trained 1-on-1 as assigned a camera*	1.367
Not Trained*	1.731

*Significance at 95% confidence

Based upon the analysis, the data supports that policy and user training affect officer acceptance of body-worn cameras. Further, it indicates that the training method has more of an impact on acceptance than the existence of the training alone. Policy training impacts secondary levels or signs of acceptance as seen with the variables protect officers from false accusations (PFA), and Officer Believes BWC provides clarity to

incidents (VPC). In contrast, user training directly relates to whether the officer reports accepting body-worn cameras as with the variable Level of Acceptance (ACC). Another consideration may be that this study did not account for the training content. It is not known if the formal training included training on policy.

Technology Acceptance Model

The hypothesis predicts that the Technology Acceptance Model (TAM) will mitigate the policy and training process to affect officer acceptance of body-worn cameras. To assess this relationship, I first performed linear regression analysis to determine if there were relationships between the following:

- The policy and training process on the identifiers of TAM
- The identifiers of TAM on indicators of officer BWC acceptance
- The policy and training process on indicators of officer BWC acceptance (already tested for research question 3).

I will begin with a recap of the relationship between the policy and training process on officer BWC acceptance. Data showed a relationship between how training was conducted (HTC) to overall BWC acceptance (ACC) and the indicators of acceptance--the officer believes BWC protects officers from false accusations (PFA), and the officer believes BWC provides clarity to incidents (VPC). The policy training process did not indicate a direct link to the officer acknowledging acceptance of BWC (ACC), but how the policy was received by the officer (HPR) did indicate a relationship to indicators of acceptance, including the officer believes BWC protects officers from false

accusations (PFA) and the officer finds BWC video helps remember details when writing reports (HRD).

Next, I assessed the existence of a relationship between the indicators of the Technology Acceptance Model (TAM) and indicators of BWC acceptance, including Level of BWC acceptance (ACC), Officer finds BWC Video Helps Remember Details when Writing Reports (HRD), Officer Believes BWC protect officers from false accusations (PFA), and Officer Believes BWC provides clarity to incidents (VPC). The Linear Regression testing results are in Table 19, TAM relative to Indicators of Acceptance. Since TAM holds that perceived usefulness and ease of use indicate the likelihood of acceptance, the variables used to indicate TAM are officer finds BWC Easy to Use (EAS), Officer finds BWC beneficial (BEN), and officer finds BWC helps do their job (HEL). Linear regression showed significant relationships across all categories except one. Easy to Use (ETU) did not affect the variable officer believes BWC protects officers from false accusations (PFA).

Table 19

Technology Acceptance Model Relative to Indicators of Acceptance

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect
ETU	PFA	-0.086	0.007	2.294	0.143	No
BEN	ACC	0.538	0.538	125.991	<.001	Yes
ETU	ACC	0.356	0.127	44.923	<.001	Yes
HEL	ACC	0.607	0.368	44.920	<.001	Yes
BEN	HRD	-0.378	0.143	51.511	<.001	Yes
ETU	HRD	-0.194	0.038	12.023	<.001	Yes
HEL	HRD	-0.532	0.283	121.908	<.001	Yes
BEN	PFA	-0.267	0.071	23.751	<.001	Yes
HEL	PFA	-0.221	0.049	15.959	<.001	Yes
BEN	VPC	-0.243	0.059	19.437	<.001	Yes
EAS	VPC	-0.231	0.053	17.402	<.001	Yes
HEL	VPC	-0.381	0.145	52.665	<.001	Yes

The indicators of TAM also need to be assessed in relationship to the policy process. I changed officer finds BWC Easy to Use (EAS), Officer finds BWC beneficial (BEN), and officer finds BWC helps do their job (HEL) each to dependent variables in linear regression and used the variables relative to the policy process as intended variables. No tests showed significant relationships between the policy and training process and the indicators of the Technology Acceptance Model.

Table 20

Policy Process Relative to Indicators of Technology Acceptance Model

IV Code	DV Code	Beta	R Square	F	p	Significant Effect
HPD	BEN	0.048	0.002	0.495	0.482	No
HPD	ETU	-0.024	0.001	0.123	0.723	No
HPD	HEL	0.063	0.004	0.862	0.354	No
HPR	BEN	-0.091	0.008	1.792	0.182	No
HPR	ETU	0.007	0.000	0.011	0.916	No
HPR	HEL	-0.125	0.016	`3.398	0.067	No
PIP	BEN	-0.045	0.002	0.618	0.432	No
PIP	HEL	-0.041	0.002	0.526	0.469	No
PIP	ETU	-0.044	0.002	0.611	0.434	No
PRO	BEN	0.002	0.000	0.001	0.981	No
PRO	HEL	0.036	0.001	0.315	0.575	No
PRO	ETU	0.100	0.010	2.412	0.122	No

Therefore, since there are no relationships between the policy process and the technology acceptance model, TAM is not indicated as a covariate between the policy process and officer acceptance of body-worn cameras. However, TAM alone is a clear predictor of the indicators of officer acceptance of body-worn cameras.

Organizational Procedural Justice

This study is grounded in organizational procedural justice theory, which asserts that when an employee has a trust relationship with the employer, feels included in

decision-making, and feels informed about decisions being made, the employee will be more likely to trust decisions made by the employer. To determine the role of organizational procedural justice, its indicators must be assessed as dependent and independent variables concerning the policy process and overall BWC acceptance. Table 21, The policy process relative to indicators of organizational procedural justice, displays the linear regression tests for the respective variables.

Table 21

Policy Process Relative to Indicators of Organizational Procedural Justice

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect
ACT	ATO	0.104	0.011	2.917	0.089	No
ACT	TRU	0.055	0.003	1.031	0.311	No
HPD	ATO	0.014	0.000	0.024	0.878	No
HPD	TRU	-0.050	0.003	0.623	0.431	No
HPR	ATO	-0.046	0.002	0.392	0.532	No
HPR	TRU	-0.029	0.001	0.197	0.658	No
HTC	TRU	-0.061	0.004	1.209	0.272	No
PIP	ATO	0.071	0.005	1.355	0.245	No
PIP	TRU	0.053	0.003	0.623	0.431	No
HTC	ATO	-0.176	0.031	7.867	0.005	Yes

Only How Training was Conducted (HTC) affected Agency Trusts Officers (ATO) with a 3.1% change ($R2=.0031$, $\beta=-.0176$, $F=7.867$, $p=.005$). This data does not support the policy process having a significant relationship to feelings of organizational procedural justice. However, data supported HTC affecting BWC acceptance (ACC). Therefore, I performed additional testing to determine if Officers believe that the agency trusts officers (ATO) could be a covariate in that relationship. Tests of between-subject effects ($F=3.218$, $p=.013$) supported the null hypothesis that there is no significant

relationship between the two variables of ATO and HTC when applied as covariates. More analysis relative to organizational procedural justice will be reviewed in chapter 5.

Summary

The hypothesis is that officers who are aware of body-worn camera programs in advance, who are involved in the program design and policy process, and who are trained before implementation are more likely to perceive the technology as both useful and easy to use and, therefore, accept the body-worn camera program. However, significant relationships were identified between the policy process and identifiers of officer acceptance of body-worn cameras without TAM as a covariate.

Research question one was not supported as no significant relationship was identified between informing officers before body-worn camera implementation and officer acceptance of the body-worn camera program. Research question 2 was not supported as there is no evidence of a relationship between officers having an opportunity to participate in the body-worn camera program design and officer acceptance of the body-worn camera program. However, research question two was supported.

Although the strength of the relationships is weak, relationships were identified between the policy implementation process (policy development, policy dissemination, and training) and indicators of body-worn camera acceptance. The policy process did not show a relationship between officers' self-reporting that they accept body-worn camera programs, but it did show a relationship between specific acceptance indicators based on how the policy was received. The training process, specifically how officers were trained, showed a significant relationship with officers' self-reporting that they accept body-worn

camera programs and several acceptance indicators. The support there is a relationship between the policy implementation process and body-worn camera program acceptance. However, the hypothesis (H1) required that this relationship be mitigated by the Technology Acceptance Model (TAM) indicators, perceived usefulness, and ease of use. This covariate relationship was not supported, so the null hypothesis (h0) is supported.

Many conclusions can be drawn from the data analysis. Many other variables were analyzed throughout the data analysis process beyond the relationship to the research questions and hypothesis. The data revealed several relationships that provide further insight into this study relative to the literature review process and the theoretical framework. These results will set the ground for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

This study was concerned with the relationships and patterns between the global variables of the policy implementation process and body-worn camera program acceptance from the officer's point of view. I hypothesized that when agencies inform and prepare line-level officers for body-worn camera implementation through the policy process and training, officers will perceive body-worn cameras as more favorable and use them more. Due to the causality relationships hypothesized, quantitative design and statistical analysis best provided the broad picture from which future research could expound (see Rudestam & Newton, 2015). I analyzed this relationship through the TAM lens to determine if perceived usefulness and ease of use increase or decrease with the officers' perceptions of organizational procedural justice.

The Survey Monkey platform was the mode of delivery for the electronic survey. The sample was a convenience sample to achieve the most appropriate sample population. The target population was all sworn non-managerial law enforcement officers in Ohio. Data were downloaded into SPSS to be analyzed to determine which variables have relationships and the strength of those relationships. Linear regression, ANOVA, and ANCOVA were used to test these relationships.

Findings

The hypothesis was that officers who are aware of body-worn camera programs in advance, are involved in the program design and policy process, and are trained before implementation are likelier to perceive the technology as both useful and easy to use and will therefore be more likely to accept the body-worn camera program. The hypothesis

was rejected due to the lack of a covariance relationship of TAM between the policy process and officer acceptance of body-worn cameras. However, the TAM did significantly impact officer acceptance of cameras. Significant relationships were also identified between the policy process and identifiers of officer acceptance of body-worn cameras without TAM as a covariate.

RQ 1 was not supported as no significant relationship was identified between informing officers before body-worn camera implementation and officer acceptance of the body-worn camera program. RQ 2 was not supported as there is no evidence of a relationship between officers having an opportunity to participate in the body-worn camera program design and officer acceptance of the body-worn camera program. However, RQ 3 was supported. The policy process did not show a relationship between officers' self-reporting that they accept body-worn camera programs, but it did show a relationship between specific acceptance indicators based on how the policy was received. The training process, specifically how officers were trained, showed a significant relationship with officers' self-reporting that they accept body-worn camera programs and several acceptance indicators. This indicates that training or policy alone does not impact officer acceptance of body-worn cameras, but how the policy process is implemented impacts acceptance.

Interpretation

Although the main hypothesis was rejected, many useful data points were discovered relative to the TAM, the policy process, and organizational procedural justice theory. These findings may have implications for body-worn camera implementation.

The findings are summarized in the following sections, relative to the theoretical frameworks of TAM and organizational procedural justice theory.

Ease of Use

Through linear regression testing, the policy implementation process, inclusive of policy development, policy dissemination, and operator training, were determined to have no significant effect on the three indicator variables of the TAM—officer finds BWC easy to use (EAS), officer finds BWC beneficial (BEN), and officer finds BWC helpful to their job (HEL). This data is provided in Table 22. However, the indicator variables of the TAM had a significant relationship with indicators of officer acceptance of body-worn camera programs, except for one variable. But no significant relationship was found between officers finding body-worn cameras easy to use (ETU) and officers believing that body-worn cameras protect them from false allegations (PFA). Therefore, the TAM is not affected by the policy implementation process and is not a mitigating factor between the policy implementation process and officer acceptance of body-worn camera programs. No other tests produced results to indicate any relationships with the TAM aside from the direct relationship between the TAM and acceptance.

Table 22

Officer Reported Reasons Their Agency Does Not Have Body-Worn Cameras

Reason Reported	N	Percentage
Do not know	17	4.4%
Cost	6	1.6%
Leadership fears how it will change agency operations	1	0.3%
Officers do not want	6	1.6%
Other	4	1.0%
Not Applicable	353	91.2%

Privacy

Body-worn cameras have resulted in privacy concerns for both citizens and officers. As citizens were not the sample group in this study, no data were taken or analyzed relative to their privacy. Officers were not directly asked about privacy concerns, but three variables were included that could be indicators of privacy—the agency has requirements for turning the cameras on and off (AROO), officer awareness of wearing a camera (AWC), and the officer believes body-worn camera impedes the performance of their duties (IPD).

Three combinations of variables showed significant relationships. Officer awareness of wearing the camera had a direct relationship with the officer self-reporting that they accepted body-worn cameras. The effect accounted for 1.7% of the change ($R2 = .0017$, $\beta = -.131$, $F = 5.448$, $p = .020$). I will discuss this further when discussing the Hawthorne Effect. An officer believing the body-worn camera impedes the performance of their duties (IPD) had a significant relationship with the officer self-reporting that they accepted body-worn cameras, accounting for 16.1% of the change ($R2 = .161$, $\beta = .401$, $F = 65.439$, $p < .001$). An officer believing the body-worn camera impedes the performance of their duties (IPD) resulted in a significant relationship to the officer believing that the agency trusts their officers, accounting for 4.5% of the sample change ($R2 = .045$, $\beta = .212$, $F = 12.368$, $p < .001$). I will discuss this further regarding organizational, procedural justice theory findings.

These results cannot be directly related to officers' feelings of privacy. However, they indicate that negative perceptions of body-worn cameras affect acceptance of

cameras and feelings of organizational procedural justice. Both awareness of wearing the camera (ACC) and officer believing the body-worn camera impedes the performance of their duties (IPD) should be studied further to determine if these feelings are related to privacy concerns or other factors.

Cost

The literature review indicated that the cost of body-worn camera implementation was often cited as the main reason for an agency not having body-worn cameras. In this study, I asked officers who did not have body-worn cameras at their agencies why their agencies did not have cameras. It should be noted that very few officers who did not have body-worn cameras participated, as discussed earlier in Chapter 4 under dissemination challenges. Further, this study focused on officers, not managers or command staff. Therefore, it should be noted that their responses could be speculative. This barrier to implementation should be studied directly, with the sample population of managerial and command staff in law enforcement, to determine the true weight of the impact of body-worn camera cost as a barrier to implementation.

Body-Worn Cameras as a Panacea

Body-worn cameras are often perceived to be a panacea. Law enforcement leaders and citizens alike have a common misconception that implementing body-worn cameras will fix all the agency's problems by providing transparency and accountability for officers and improving community-police relations. The survey tool asked multiple questions regarding agency transparency (TRAN and TRAN2), improving community

trust (ICT), Improving citizen and subject behavior (CSB and CSB2), and affecting citizen actions (ACA).

Transparency

Two questions were asked about transparency. Question 30 asked if the officer agreed that "BWCs help my agency be more transparent. Question 40 asked if the officer agreed that "Body-worn cameras help provide transparency." The results do not match. Question 30 (TRAN), where the agency was the focus, resulted in a 51.4% "No" response. Question 40 (TRAN2), where the focus was on the cameras, and there was no mention of the agency, resulted in a 70.3% "Yes" response.

The fact that results are vastly different across the two questions brings into question whether the officers' feelings about transparency changed due to the question's phrasing. It is possible that officers expressed negativity toward transparency when it was viewed as a benefit to the agency, contrasted to when it was viewed as an independent concept. Officers' perceptions of organizational procedural justice may have also affected their responses.

To further examine this phenomenon, I returned to the linear regression testing of the independent variables relative to transparency (TRAN and TRAN2) and the variables relative to organizational procedural justice (ACC, TRU, and ATO). In five of the six cases, a significant effect resulted (see Table 23). The greatest relationship is that between TRAN, agency-related transparency, and ACC, officer self-reported acceptance of body-worn cameras where a 37.2% change is detected ($R2 = .372$, $\beta = .-.610$, $F = 201.807$, $p < .001$).

Values of Transparency (TRAN) vary from 0.00 (No) to 1.00 (Yes). Self-reported acceptance ranges from 1.00 (They are a good tool and help me do my job) to 3.00 (I don't like wearing a BWC. Both TRAN and TRAN2 affect ACC with a negative Beta value β = -.610, -.394), indicating that in both cases reports of transparency result in the independent variable trending toward acceptance.

Table 23

Officer Perceptions of Transparency to Organizational Procedural Justice

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect
TRA	ACC	-0.610	0.372	201.807	<.001	Yes
TRA	TRU	-0.180	0.032	11.385	<.001	Yes
TRA2	ACC	-0.394	0.155	62.683	<.001	Yes
TRA2	ATO	-0.157	0.025	6.680	0.010	Yes
TRA2	ATO	-0.101	0.010	2.730	0.100	No
TRA2	TRU	-0.162	0.026	9.236	0.003	Yes

Improving Community Trust

One of the greatest claims outlined in the President's Taskforce on 21st Century Policing (2015) is that body-worn cameras can improve public or community trust. Although I do not claim this phenomenon to be measured within this survey tool, it indicates the officers' perceptions of the relationship between body-worn cameras and public trust. This question produced a closely divided result, with 51.6% of participants indicating a "No" response and 48.4% indicating a "Yes" response.

Affecting Citizen and Subject Behavior

From the perception of the police officer, body-worn cameras do not improve citizen and subject behavior. This was asked of the officer at three different intervals in

the survey, each corresponding to a measured variable (CSB, CSB2, and ACA). The overwhelming response was negative in both questions where the officer was asked if body-worn cameras make citizens behave better (CSB and CSB2). In the third category, the question merely asked if body-worn cameras affect citizen and suspect actions (ACA), resulting in a positive response.

It should be noted that this category had a third response option of "I don't know," which was selected by 59 participants. These results indicate that although officers do not believe that body-worn cameras cause an improvement in citizen and subject behavior, they do believe that there is some behavior change. This could be many things, from avoidance, unwillingness to talk, or even aggravation or violence. This warrants further scrutiny outside of the limitations of this study. This behavior change is also a factor in another phenomenon of the body-worn camera—the Hawthorn Effect.

Hawthorn Effect and Citizen Behavior

The Hawthorn Effect can describe the power of a body-worn camera to improve citizen behavior. In this phenomenon, people behave better when they know they are being watched. Officers overwhelmingly reported that body-worn camera presence does not improve the behavior of citizens or suspects. The Hawthorn Effect also carries across to the officers being watched, where many believe having a camera on the officer will prevent police brutality. One additional question targeted this effect, asking the officers to describe their awareness of wearing a body-worn camera (AWC). Officer responses widely support the Hawthorn Effect, with 67.0% reporting they are aware that they are wearing a camera and on video. Only 1.0% reported forgetting the camera was there, and

32.0% reported that they did not know. In summary, officers believe that cameras affect citizen action but do not improve those actions, and the officer is highly aware of wearing a camera and being on video. This awareness may take into consideration officer perceptions of the cameras being able to see more than the officer.

Point of View

Body-worn cameras record every point of a scene simultaneously. A law enforcement officer is limited to perceiving what the human brain can process at any given moment. A common case cited in cases of alleged police brutality is Graham v. Connor et al. (1988), which established the rule of objectively reasonable. The standard asserts that officers shall "evaluate each situation in light of the known circumstances, including, but not limited to, the seriousness of the crime, the level of threat or resistance presented by the subject, and the danger to themselves and the community when determining the necessity for force and the appropriate level of force" (https://www.lawinsider.com/dictionary/objectively-reasonable). The problem with the objectively reasonable standard lies with the phrase "in light of the known circumstances." What is known to the officer can only truly be known by the officer's self-reports. A camera can see more than the human brain can process. Body-worn cameras have created a new conflict. If the camera can see more, how can a jury know the officer couldn't see more, too? It could plant a seed of doubt.

Beyond the camera's ability to catch more than the human eye or brain lies the fact that the human head can turn. Most body-worn cameras are worn on the torso, and if

an officer turns their head, they will see something completely different from the camera. Both scenarios create confusion with the officer's point of view.

Officers were asked if they believe that a body-worn camera causes confusion because it sees more than the officer (CSM) and if it provides clarity to incidents (VPC). Despite the potential shortcomings, officers still believe that body-worn cameras bring clarity to the incident (VPC), with 77.6% responding affirmatively. Additionally, 65.4% of officers surveyed believed that body-worn cameras do not cause confusion due to being able to see more than the officer. From the limited scope of this study, concerns about point of view do not carry weight regarding the proportion of officers responding.

A closer look at these two variables shows their relationship to indicators of organizational procedural justice. In five of the six relationships tested, VPC and CSM had a significant relationship with overall self-reported camera acceptance (ACC), officers trusting agency leadership (TRU), and officer belief that the agency leadership trusts the officers (ATO). See Table 25, CSM and VPC to Organizational Procedural Justice. Of those relationships identified, the strongest was that of believing the video provides clarity to the incident (VPC) to overall self-reported acceptance of body-worn cameras, accounting for 18.8% of the change ($R2=.188$, $\beta=-.433$, $F=79.019$, $p<.001$). With each shift towards believing that video provides clarity, we see the officer approaching body-worn camera acceptance. The significant relationships between video providing clarity and trust will be assessed later regarding organizational procedural justice.

Table 24

Camera Confusion and Clarity to Organizational Procedural Justice

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect
CSM	ACC	0.223	0.050	17.982	<.001	Yes
CSM	ATO	0.085	0.007	1.919	0.167	No
CSM	TRU	0.124	0.015	5.310	0.022	Yes
VPC	ACC	-0.433	0.188	79.019	<.001	Yes
VPC	ATO	-0.182	0.033	9.023	0.003	Yes
VPC	TRU	-0.168	0.028	9.965	0.002	Yes

Organizational Procedural Justice

This study was grounded in organizational procedural justice theory, which holds that employees' perceptions about the organization and the organizational leaders' actions directly influence their attitudes and behaviors (Rupp & Thornton-Lugo, 2015). Organizational procedural justice theory can be applied to the relationship between the officer and the law enforcement agency. Officers who believe the agency treats them fairly are more likely to be committed to the work, more compliant with departmental rules, and accept new policies and technologies like body-worn cameras (Huff et al., 2020). If law enforcement officers know about, understand, and participate in decisions and actions taken by the law enforcement agency, they are more likely to trust the agency, comply with its direction, and agree with its decisions.

Several patterns or points of interest were identified relative to themes identified in the literature review. Some patterns were identified in the main variables studied, like implementing policy and training or having trust in the agency. Others were found in variables intended to provide context or possibly be related, such as if the participant

believes that the agency trusts officers and whether the officers feel well informed about decisions being made and why.

Policy and Training

As analyzed and discussed in chapter four, very little relationship was discovered between having a policy or simply conducting training to body-worn camera acceptance or indicators of organizational procedural justice. However, I found two patterns relative to other aspects of the policy process. Repeating significance is found with the dependent variable of how the policy was received (HPR) and how training was conducted (HTC).

Based upon the analysis, the data supports that policy and user training affect officer acceptance of body-worn cameras. However, it indicates that the training method has more of an impact on acceptance than the existence of the training alone. Policy training impacts secondary levels or signs of acceptance as seen with the variables protect officers from false accusations (PFA) and Officer Believes BWC provides clarity to incidents (VPC). In comparison, user training directly relates to whether the officer reports accepting body-worn cameras as with the variable Level of Acceptance (ACC). One further consideration may be that this study did not account for the content of the training conducted. It is not known if the formal training included training on policy. This is impactful because it shows the mere existence of a policy or conducting of training is not enough. How officers are trained and receive the policy is significant to their overall program acceptance.

Trust

Officers trusting agency leadership is a key variable in this study. I anticipated it would be a major predictor of other aspects of organizational procedural justice and overall acceptance. However, no relationship was identified between trusting leadership (TRU) and overall acceptance (ACC). One significant relationship was identified concerning officers' trust in agency leadership to make decisions on their behalf (TRU); it had a significant relationship to the officer belief that the agency trusts the officers (ATO) ($R2=.057$, $\beta=-.238$, $F=17.358$, $p<.001$). Therefore, I changed ATO to the independent variable to see if it had relationships with other variables. Three other significant relationships were found. An officer's belief that the agency leadership trusts their officers has a significant relationship to the overall level of body-worn camera acceptance (ACC) ($R2=.047$, $\beta=.217$, $F=13.027$, $p<.001$), officers finding body-worn cameras easy to use (ETU) ($R2=.033$, $\beta=.182$, $F=8.259$, $p=.004$), Officer finds BWC helpful to their job (HEL) ($R2=.015$, $\beta=.123$, $F=4.810$, $p=.029$).

Despite finding no significant relationship between officers trusting agency leadership and acceptance of body-worn cameras or between officers trusting agency leadership and indicators of the technology assessment model, officers feeling trusted by the agency was related to both acceptance and two of the three indicators of TAM. I performed an ANCOVA to test for significant correlations, this time on all three indicators of TAM. All three variables, officers finding BWC easy to use ($F(3,142)=16.994$, $r=.181$, $p=.027$) beneficial to their job ($F(3,142)=14.841$, $r=.235$, $p=.001$), and helpful to their job ($F(3,142)=18.796$, $r=.209$, $p=.004$) showed a significant relationship with the officer

believing the agency trusts officers. This implies that TAM alone is not a predictor of technology acceptance but has a relationship with officers feeling trusted, part of Maslow's Hierarchy of Needs, achieving self-actualization (Maslow, 1967).

Being Informed

One indicator of organizational procedural justice that I determined to have a significant relationship with body-worn camera acceptance (ACC) is being informed. An officer feels like they are well-informed about the decisions being made and why (OWI), has a significant relationship with both officer acceptance of body-worn cameras ($R2=.042$, $\beta=.204$, $F=14.882$, $p<.001$) and the officer trusting agency leadership to make decisions on their behalf (TRU) ($R2=.142$, $\beta=.377$, $F=62.811$, $p<.001$). I tested OWI against the three indicators of TAM: officers finding body-worn cameras beneficial ($F(3,186)=31.282$, $p<.001$), easy to use ($F(3,186)=14.983$, $p<.001$), and helpful to their job ($F(3,186)=31.655$, $p<.001$) and all showed to have a significant covariate relationship. Controlling for indicators of the technology model, unlike the policy and training process, which could not be linked to officer acceptance of body-worn cameras, some indicators of organizational procedural justice showed covariate relationships with TAM, affecting officer overall acceptance of body-worn cameras.

Although TAM is a strong predictor of acceptance of body-won-camera acceptance, it is affected by several other factors, including how training was conducted, if the officer feels like agency leadership trusts the officers, and if the officer feels they are well-informed about decisions being made and why. This supports that feelings of organizational procedural justice can affect officers' acceptance of body-worn cameras

and that officers need to feel trusted by agency leadership. This self-actualization fulfillment impacts organizational procedural justice feelings (TRU) and acceptance (ACC).

Limitations

This study has several potential limitations. Due to the heightened tension between the public and law enforcement agencies, including campaigns to defund the police, agency leaders may not have been willing to share the survey with officers, and officers may have been reluctant to complete the survey. I tempered this limitation by fully explaining to leaders who control contact information for officers who I was and the purpose of my research. I also assured anonymity, which tempered response bias or officers responding in ways they believed were socially acceptable.

Due to the anonymity required and the convenience sampling delimitation, there was no guarantee that respondents would be from agencies that have implemented body-worn cameras. Although the survey tool had two paths for officers to navigate, one for those who have body-worn cameras and one for those who do not, it may have been more meaningful to conduct these surveys on each target population separately if agencies who use body-worn cameras can be determined and included without risking anonymity of participants.

This study may not be generalizable outside of the State of Ohio because officers within Ohio share the same statutory restrictions, which may influence their views on organizational procedural justice. These officers share the same government oversight and legislation and are investigated by the same agency when there is an officer-involved

shooting or allegations of brutality. These activities could affect training requirements, feelings of trust, and even camera funding. These factors may not be identically transferrable to other jurisdictions without a separate study.

Another limitation is the undeniable intermingled nature of the policy and training within the implementation process. Officer self-awareness of agency operations and their feelings can be intertwined. Officers may not feel they were trained on the policy when the policy was included in the body-worn camera user training. How a policy was developed may not have impacted acceptance, but an officer feeling included and informed does. These limitations could all be addressed in recommendations for future study.

Recommendations

This study is foundational research to direct and guide future research on the relationships between the policy implementation process, feelings of organizational procedural justice, implications of the technology acceptance model, and officer acceptance of body-worn cameras. This study should be repeated in other states or jurisdictions to see if similar results are rendered under differing legislative requirements, training capabilities, and citizen demographics. I recommend that it be repeated within Ohio with a larger sample size and longer duration to discern if responses hold consistent.

I recommend that this study be modified and repeated within Ohio, with separate samples and survey questions for those with body-worn cameras and those without. This would require that agencies be identified in advance as to their body-worn camera usage. This would allow the questions to target officers more directly where they are in the

implementation process and mitigate having to use skip-logic in the survey tool. Further, for those who do not yet have body-worn cameras, I recommend conducting the survey pre- and post-implementation to discern the effect of the implementation process. It would be possible then to also conduct experimental design and control how portions of the sample population receive the policy and training, which I identified in this study as having a significant relationship with indicators of officer acceptance of body-worn cameras.

To delve deeper into the impact on how policy implementation and training are conducted, I would recommend a separate qualitative study be conducted. This could provide trends and information not envisioned by the researcher but also allow mitigation of intermingled processes, whereas the researcher can ask clarifying questions. For example, if an officer responds that they were not trained on the policy but were trained on body-worn camera usage, the researcher can ask if the usage training included information on the policy. This could allow for a deeper analysis of officer perceptions, particularly personal ones, like feeling trusted, included, informed, and self-actualized.

Positive Social Change

This study resulted in four main findings. An agency having a policy on body-worn cameras is less impactful than how that policy was disseminated to officers or even how it was developed. Officers may not need to be included in the actual development of the policy or training, but the officers' feeling like they are informed about what decisions are being made and why influences the officer’s acceptance of change. Even greater, officers reporting trusting agency leaders was not a predictor of overall acceptance, but

the officer feeling trusted by the agency was a predictor of not only acceptance but also whether they identified the technology as easy to use, helpful to their job, or overall beneficial tools.

Although the policy implementation process alone did not significantly affect overall acceptance, indicators of organizational procedural justice did affect indicators of the technology acceptance model as a covariate relationship on overall acceptance of body-worn cameras. Therefore, although TAM is a strong predictor of acceptance, it is also a dependent variable, affected by other factors, including feelings of organizational procedural justice and self-actualization.

Agencies in Ohio are not adopting body-worn cameras universally. A body-worn camera is essential to ensure law enforcement transparency and accountability (Barkediev, 2015), which are both principles of democracy (Principles of Democracy. n.d.). There is a need to increase body-worn cameras in Ohio communities, but implementation obstacles include officer resistance. To achieve widespread successful implementation, agency leaders must understand potential barriers to body-worn camera adoption and implementation to prepare for and navigate around them.

When implementing body-worn cameras and perhaps other new technologies or processes, agency leadership must be deliberate in planning implementation. As part of this deliberate implementation, agency leadership must ensure that the messaging, training content, instruction, and policy are developed to fully inform the officers while reinforcing support and trust in the officers. Aside from how training is conducted, an officer feeling trusted by agency leadership had a significant relationship with indicators

of the technology acceptance model and overall acceptance of body-worn cameras. An agency cannot haphazardly purchase and assign body-worn cameras. This feeds into officer uneasiness from lack of being informed and concern that the cameras are a response to not being trusted by agency leadership or the communities they serve.

Having an established policy in place, even in draft form, will be essential to allowing officers to read, be trained on, and be required to sign the respective policy. These activities should increase the officers 'acceptance indicators, including appreciating that body-worn cameras can help the officer recall specific details when writing reports and protect officers from false allegations. It could advertise the benefits to the officers, allowing them to be open to training in the new technology.

After policy development, agency leadership should be equally deliberate in training officers on body-worn camera usage. Although not indicated as widely different in this study, there were significant differences in the mean results regarding acceptance based on how agencies conducted training. Refer to Table 18, Officer Level of Acceptance based upon training method.

Reviewing a PowerPoint on their own and experiencing formal training (classroom, online course) showed higher levels of acceptance (value 1.00) compared to indifference (value 2.00) or rejection (value 3.00). Those who were not trained deviated from acceptance the most, approaching indifference. As adults vary in learning style, which is supported by the similarity in means between reviewing a PowerPoint (1.200), having formal training (1.29), reviewing a video (1.347), and being trained one-on-one as

being assigned a camera, I would recommend a deliberate and synthesized training process.

The agency should develop the policy, present it with a self-guided PowerPoint, and require the officer to sign it. This should be followed by formal classroom training, which includes a similar PowerPoint and video support tools. Finally, after being formally trained in the classroom, the officer should be trained one-on-one by their supervisor or designated subject matter staff with practical hands-on instruction as they are being issued the camera. Combining these techniques should encompass the learning styles of officers, allow time to reflect and ask questions, and acclimate to the idea of a body-worn camera before being outfitted with one.

Developing a deliberate implementation process through the lens of organizational procedural justice while ensuring the officers feel informed and trusted should allow for more successful implementation of body-worn cameras. This should provide agency leaders with a framework for how to build and implement the program, allowing them the confidence to move forward with body-worn camera programs. By having more agencies with body-worn cameras and more officers accepting cameras, more officers use body-worn cameras effectively to promote safety, accuracy, and transparency. Officer accountability and agency transparency are indicators of community trust in the police. By acknowledging the potential barriers and implementing a process to mitigate them, agency leaders will contribute to improving the strained community-police relations, a significant issue of our time.

Conclusion

Body-worn cameras have been cited as a key tool to improve agency transparency and overall trust in the police. Despite the public outcry for body-worn cameras, the technology has not been accepted or successfully implemented universally. This study identified that although the policy implementation process doesn't have a significant effect on the technology acceptance model, a widely accepted theory regarding technology acceptance, the policy implementation process, particularly how the implementation is conducted and if the officer feels well-informed and trusted throughout the process are identified as indicators to overall program success.

Law enforcement agency leadership must do everything possible to improve community-police relations. This study shows that the officers' perceptions and feelings about the organization influence body-worn camera acceptance. Agency leaders must be transparent with officers about body-worn camera implementation and develop a deliberate implementation process, inclusive of varying training techniques, to increase the likelihood of officer acceptance and, in turn, program success. By taking these steps, agency leadership will create a stronger relationship with their officers and the community they serve.

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Appendix: Linear Regression Tests

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect Founds
BEN	ACC	0.538	0.538	125.910	<.001	Yes
ETU	ACC	0.356	0.127	44.923	<.001	Yes
HEL	ACC	0.607	0.368	44.920	<.001	Yes
PIP	ACC	0.045	0.002	0.683	0.409	No
PRO	ACC	0.084	0.007	1.890	0.169	No
HPR	ACC	-0.107	0.011	2.738	0.099	No
HPD	ACC	0.022	0.001	0.123	0.726	No
ACT	ACC	0.098	0.010	3.340	0.068	No
HTC	ACC	-0.203	0.041	13.751	<.001	Yes
HLA	ACC	-0.037	0.001	0.431	0.512	No
ACA	ACC	0.080	0.006	1.979	0.160	No
AWC	ACC	-0.131	0.017	5.448	0.020	Yes
AROO	ACC	0.078	0.006	2.072	0.151	No
TAR	ACC	0.028	0.001	0.261	0.610	No
ODK	ACC	-0.024	0.001	0.198	0.656	No
VMR	ACC	0.055	0.003	1.011	0.315	No
PRR	ACC	0.027	0.001	0.254	0.615	No
RVR	ACC	0.071	0.005	1.741	0.188	No
UOF	ACC	-0.019	0.000	0.124	0.725	No
HRD	ACC	-0.680	0.462	292.641	<.001	Yes
CTM	ACC	-0.656	0.430	257.060	<.001	Yes
SSH	ACC	-7.590	0.576	462.273	<.001	Yes
CSB	ACC	-0.316	0.100	37.491	<.001	Yes
TRA	ACC	-0.610	0.372	201.807	<.001	Yes
ICT	ACC	-0.550	0.302	147.776	<.001	Yes
LCO	ACC	-0.458	0.210	56.985	<.001	Yes
ATO	ACC	0.217	0.047	13.027	<.001	Yes
APR	ACC	0.172	0.030	10.438	0.001	Yes
OIR	ACC	0.098	0.010	3.336	0.069	No
OWI	ACC	0.204	0.042	14.882	<.001	Yes
TRU	ACC	0.084	0.007	2.442	0.119	No
PFA	ACC	-0.350	0.122	47.688	<.001	Yes
VPC	ACC	-0.433	0.188	79.019	<.001	Yes
CSM	ACC	0.223	0.050	17.982	<.001	Yes
CSB2	ACC	-0.133	0.018	6.172	<.001	Yes
TRA2	ACC	-0.394	0.155	62.683	<.001	Yes
IPD	ACC	0.401	0.161	65.439	<.001	Yes
HCA	ACC	0.038	0.001	0.489	0.485	No
ATO	ACC	0.183	0.033	9.215	0.003	Yes
PIP	ATO	0.071	0.005	1.355	0.245	No
PRO	ATO	0.060	0.004	0.965	0.327	No
HPR	ATO	-0.046	0.002	0.392	0.532	No
HPD	ATO	0.014	0.000	0.024	0.878	No
ACT	ATO	0.104	0.011	2.917	0.089	No
HTC	ATO	-0.176	0.031	7.867	0.005	Yes
HLA	ATO	-0.043	0.002	0.437	0.509	No
HEL	ATO	0.019	0.035	8.731	0.003	Yes
AROO	ATO	-0.064	0.004	1.102	0.295	No
ODK	ATO	-0.108	0.012	3.398	0.066	No

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect Founds
VMR	ATO	0.057	0.003	0.850	0.357	No
PRR	ATO	0.017	0.000	0.072	0.788	No
RVR	ATO	0.105	0.011	2.933	0.088	No
UOF	ATO	0.045	0.002	0.522	0.470	No
ICT	ATO	-0.138	0.019	5.160	0.024	Yes
LCO	ATO	-0.785	0.616	227.755	<.001	Yes
OIR	ATO	0.012	0.000	0.038	0.846	No
OWI	ATO	-0.067	0.005	1.572	0.211	No
TRU	ATO	-0.258	0.067	18.831	<.001	Yes
PFA	ATO	-0.115	0.001	0.417	0.519	No
IPD	ATO	0.212	0.045	12.368	<.001	Yes
BEN	ATO	0.202	0.041	10.197	0.002	Yes
ETU	ATO	0.182	0.033	8.167	0.002	Yes
HLA	ATO	-0.040	0.002	0.388	0.534	No
ACA	ATO	-0.045	0.002	0.499	0.485	No
AWC	ATO	-0.047	0.002	0.534	0.466	No
TAR	ATO	0.054	0.003	0.745	0.389	No
HRD	ATO	-0.127	0.016	4.324	0.039	Yes
CTM	ATO	-0.139	0.019	5.188	0.024	Yes
SSH	ATO	-0.144	0.021	5.586	0.019	Yes
CSB2	ATO	0.019	0.000	0.100	0.752	No
TRA2	ATO	-0.157	0.025	6.680	0.010	Yes
APR	ATO	0.188	0.036	9.722	0.002	Yes
DNL	ATO	0.255	0.065	1.536	0.288	No
CSB2	ATO	0.078	0.006	1.636	0.202	No
TRA2	ATO	-0.101	0.010	2.730	0.100	No
ETU	BEN	0.227	0.051	16.740	<.001	Yes
HEL	BEN	0.502	0.252	104.367	<.001	Yes
PIP	BEN	-0.045	0.002	0.618	0.432	No
PRO	BEN	0.002	0.000	0.001	0.981	No
HPR	BEN	-0.091	0.008	1.792	0.182	No
HPD	BEN	0.048	0.002	0.495	0.482	No
ACT	BEN	0.012	0.000	0.048	0.826	No
HTC	BEN	-0.075	0.006	1.647	0.200	No
ATO	BEN	0.172	0.030	7.373	0.007	No
PIP	CSB	-0.037	0.001	0.466	0.495	No
PRO	CSB	-0.001	0.000	0.000	0.993	No
HPR	CSB	0.054	0.003	0.680	0.411	No
HPD	CSB	0.073	0.005	1.296	0.256	No
ACT	CSB	-0.075	0.006	1.892	0.170	No
HTC	CSB	0.022	0.000	0.148	0.701	No
BEN	CSB	-0.148	0.022	6.872	0.009	Yes
ETU	CSB	-0.116	0.013	4.170	0.042	Yes
HEL	CSB	-0.238	0.056	18.360	<.001	Yes
PIP	CSB2	-0.019	0.000	0.128	0.721	No
PRO	CSB2	-0.005	0.000	0.008	0.929	No
HPR	CSB2	0.092	0.008	2.017	0.157	No
HPD	CSB2	0.101	0.010	2.521	0.114	No
ACT	CSB2	-0.022	0.000	0.170	0.681	No
HTC	CSB2	-0.073	0.005	1.691	0.194	No
BEN	CSB2	0.104	0.011	3.397	0.066	No
ETU	CSB2	-0.031	0.001	0.303	0.583	no
HEL	CSB2	-0.205	0.042	13.534	<.001	Yes

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect Founds
PIP	CSM	0.089	0.008	2.751	0.098	No
PRO	CSM	0.038	0.001	0.378	0.539	No
HPR	CSM	0.034	0.001	0.272	0.602	No
HPD	CSM	-0.004	0.000	0.005	0.946	No
ACT	CSM	-0.002	0.000	0.001	0.973	No
HTC	CSM	-0.141	0.020	6.432	0.012	Yes
BEN	CSM	0.180	0.033	10.423	0.001	Yes
ETU	CSM	0.085	0.007	2.274	0.133	No
HEL	CSM	0.114	0.013	4.082	0.044	Yes
PIP	CTM	0.039	0.002	0.521	0.471	No
PRO	CTM	-0.047	0.002	0.601	0.439	No
HPR	CTM	0.138	0.019	4.603	0.033	Yes
HPD	CTM	-0.058	0.003	0.830	0.363	No
ACT	CTM	-0.083	0.007	2.384	0.124	No
HTC	CTM	0.110	0.012	3.930	0.048	Yes
BEN	CTM	-0.385	0.148	53.697	<.001	Yes
ETU	CTM	-0.179	0.032	10.242	0.002	Yes
HEL	CTM	-0.497	0.247	101.375	<.001	Yes
PIP	DNL	0.075	0.006	0.147	0.704	No
PRO	DNL	-0.116	0.013	0.218	0.647	No
HPR	DNL	0.222	0.044	0.623	0.445	No
HPD	DNL	-0.323	0.104	1.511	0.241	No
ACT	DNL	-0.082	0.007	0.174	0.680	No
HTC	DNL	0.114	13.000	0.341	0.564	No
BEN	DNL	0.132	0.018	0.464	0.502	No
ETU	DNL	0.111	0.012	0.325	0.574	No
HEL	DNL	0.087	0.008	0.199	0.659	No
BEN	ETU	0.227	0.051	16.740	<.001	Yes
HEL	ETU	0.217	0.047	15.343	<.001	Yes
PIP	ETU	-0.044	0.002	0.611	0.434	No
PRO	ETU	0.100	0.010	2.412	0.122	No
HPR	ETU	0.007	0.000	0.011	0.916	No
HPD	ETU	-0.024	0.001	0.123	0.723	No
ACT	ETU	0.021	0.000	0.421	0.706	No
HTC	ETU	-0.046	0.002	0.611	0.435	No
ATO	ETU	0.182	0.033	8.259	0.004	Yes
BEN	HEL	0.502	0.252	104.367	<.001	Yes
ETU	HEL	0.217	0.047	15.343	<.001	No
PIP	HEL	-0.041	0.002	0.526	0.469	No
PRO	HEL	0.036	0.001	0.315	0.575	No
HPR	HEL	-0.125	0.016	`3.398	0.067	No
HPD	HEL	0.063	0.004	0.862	0.354	No
ACT	HEL	0.012	0.000	0.042	0.837	No
HTC	HEL	-0.085	0.007	2.131	0.145	No
ATO	HEL	0.123	0.015	4.810	0.029	Yes
HPR	HRD	0.187	0.035	8.638	0.004	Yes
PRO	HRD	-0.014	0.000	0.052	0.820	No
HPD	HRD	0.000	0.000	0.000	1.000	No
ACT	HRD	-0.085	0.004	2.501	0.115	No
HTC	HRD	0.089	0.008	2.516	0.114	No
BEN	HRD	-0.378	0.143	51.511	<.001	Yes
ETU	HRD	-0.194	0.038	12.023	<.001	Yes
HEL	HRD	-0.532	0.283	121.908	<.001	Yes

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect Founds
PIP	HRD	0.077	0.006	2.008	0.157	No
HCA	HRD	-0.097	0.009	3.242	0.073	No
HLA	HRD	0.034	0.001	0.359	0.550	No
ACA	HRD	-0.078	0.006	1.874	0.072	No
AWC	HRD	0.088	0.008	2.390	0.122	No
AROO	HRD	-0.108	0.012	4.002	0.046	Yes
TAR	HRD	0.011	0.000	0.039	0.844	No
ODK	HRD	-0.002	0.000	0.001	0.975	No
VMR	HRD	0.050	0.003	0.852	0.357	No
PIP	ICT	0.041	0.002	0.578	0.447	No
PRO	ICT	-0.076	0.006	1.537	0.216	No
HPR	ICT	0.051	0.003	0.609	0.436	No
HPD	ICT	-0.009	0.000	0.018	0.894	No
ACT	ICT	0.000	0.000	0.000	0.995	No
HTC	ICT	0.104	0.011	3.460	0.064	No
BEN	ICT	-0.319	0.102	34.978	<.001	Yes
ETU	ICT	-0.170	0.029	9.207	<.001	Yes
HEL	ICT	-0.399	0.159	58.458	<.001	Yes
BEN	ICT	-0.243	0.059	19.437	<.001	Yes
ETU	ICT	-0.231	0.053	17.402	<.001	Yes
HEL	ICT	-0.381	0.145	52.665	<.001	Yes
PIP	IPD	0.027	0.001	0.242	0.623	No
PRO	IPD	0.016	0.000	0.058	0.794	No
HPR	IPD	-0.061	0.004	0.896	0.345	No
HPD	IPD	0.032	0.001	0.249	0.618	No
ACT	IPD	0.039	0.001	0.510	0.479	No
HTC	IPD	-0.108	0.012	3.739	0.054	No
BEN	IPD	0.267	0.071	23.797	<.001	No
ETU	IPD	0.221	0.049	15.867	<.001	Yes
HEL	IPD	0.265	0.070	23.324	<.001	Yes
PIP	PFA	-0.050	0.002	0.848	0.358	No
PRO	PFA	-0.154	0.024	6.518	0.011	Yes
HPR	PFA	0.208	0.043	10.816	0.001	Yes
HPD	PFA	0.037	0.001	0.333	0.565	No
ACT	PFA	-0.061	0.004	1.278	0.259	No
HTC	PFA	0.113	0.018	5.735	0.017	Yes
BEN	PFA	-0.267	0.071	23.751	<.001	Yes
ETU	PFA	-0.086	0.007	2.294	0.143	No
HEL	PFA	-0.221	0.049	15.959	<.001	Yes
PIP	SSH	-0.043	0.002	0.643	0.423	No
PRO	SSH	-0.002	0.000	0.001	0.979	No
HPR	SSH	-0.003	0.000	0.002	0.963	No
HPD	SSH	0.046	0.002	0.506	0.477	No
ACT	SSH	-0.026	0.001	0.229	0.632	No
HTC	SSH	0.017	0.030	9.688	0.002	Yes
BEN	SSH	-0.384	0.147	53.250	<.001	Yes
ETU	SSH	-0.215	0.048	15.359	<.001	Yes
HEL	SSH	-0.485	0.235	94.833	<.001	Yes
PIP	TRA	0.047	0.002	0.748	0.388	No
PRO	TRA	-0.072	0.005	1.394	0.239	No
HPR	TRA	0.020	0.000	0.097	0.756	No
HPD	TRA	0.078	0.006	1.500	0.222	No
ACT	TRA	-0.079	0.006	2.119	0.146	No

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect Founds
HTC	TRA	0.177	0.031	10.211	0.002	Yes
BEN	TRA	-0.328	0.108	37.288	<.001	Yes
ETU	TRA	-0.198	0.039	12..400	<.001	Yes
HEL	TRA	-0.425	0.181	68.150	<.001	Yes
BEN	TRA	-0.275	0.076	25.341	<.001	Yes
ETU	TRA	-0.266	0.071	23.527	<.001	Yes
HEL	TRA	-0.286	0.082	27.615	<.001	Yes
PIP	TRA	-0.095	0.009	3.141	0.077	No
PIP	TRA2	-0.095	0.009	3.141	0.077	No
PRO	TRA2	-0.087	0.008	2.031	0.155	No
HPR	TRA2	0.074	0.005	1.316	0.252	No
HPD	TRA2	0.028	0.001	0.189	0.664	No
ACT	TRA2	-0.049	0.002	0.838	0.361	No
HTC	TRA2	0.117	0.031	10.297	0.001	Yes
HCA	TRU	-0.084	0.007	2.446	0.119	No
PIP	TRU	0.053	0.003	0.623	0.431	No
PRO	TRU	0.011	0.000	0.032	0.858	No
HPR	TRU	-0.029	0.001	0.197	0.658	No
HPD	TRU	-0.050	0.003	0.623	0.431	No
ACT	TRU	0.055	0.003	1.031	0.311	No
ACT	TRU	0.055	0.003	1.031	0.311	No
HTC	TRU	-0.061	0.004	1.209	0.272	No
AWC	TRU	-0.023	0.001	0.165	0.685	No
AROO	TRU	0.075	0.006	1.911	0.168	No
ODK	TRU	-0.044	0.002	0.648	0.421	No
VMR	TRU	0.097	0.009	3.206	0.074	No
PRR	TRU	0.078	0.006	2.305	0.130	No
RVR	TRU	0.021	0.000	0.171	0.679	No
UOF	TRU	0.116	0.014	5.159	0.024	Yes
ATO	TRU	-0.238	0.057	17.358	<.001	Yes
APR	TRU	0.223	0.050	19.924	<.001	Yes
OIR	TRU	0.369	0.136	59.458	<.001	Yes
OWI	TRU	0.377	0.142	62.811	<.001	Yes
HCA	TRU	-0.083	0.007	2.380	0.124	No
BEN	TRU	0.012	0.000	0.048	0.827	No
ETU	TRU	-0.016	0.000	0.079	0.779	No
HEL	TRU	0.101	0.010	3.206	0.074	No
HLA	TRU	0.152	0.023	0.736	0.007	Yes
ACA	TRU	0.224	0.050	16.390	<.001	Yes
TAR	TRU	0.030	0.001	0.296	0.587	No
HRD	TRU	-0.076	0.006	1.962	0.162	No
CTM	TRU	-0.087	0.008	2.586	0.109	No
SSH	TRU	-0.162	0.026	9.172	0.003	Yes
CSB	TRU	-0.250	0.062	22.540	<.001	Yes
TRA	TRU	-0.180	0.032	11.385	<.001	Yes
ICT	TRU	-0.224	0.050	17.979	<.001	Yes
LCO	TRU	-0.390	0.152	38.464	<.001	Yes
DNL	TRU	0.000	0.000	0.000	1.000	No
PFA	TRU	-0.060	0.004	1.251	0.264	No
VPC	TRU	-0.168	0.028	9.965	0.002	Yes
CSM	TRU	0.124	0.015	5.310	0.022	Yes
CSB2	TRU	-0.286	0.082	30.513	<.001	Yes
TRA2	TRU	-0.162	0.026	9.236	0.003	Yes

Independent Variable Code	Dependent Variable Code	Beta	R Square	F	p	Significant Effect Founds
IPD	TRU	0.006	0.000	0.013	0.908	No
ATO	TRU	-0.283	0.057	17.358	<.001	Yes
PIP	VPC	-0.093	0.009	2.975	0.085	No
PRO	VPC	-0.071	0.005	1.353	0.246	No
HPR	VPC	0.063	0.004	0.938	0.334	No
HPD	VPC	-0.136	0.019	4.619	0.033	Yes
ACT	VPC	-0.010	0.000	0.035	0.851	No
HTC	VPC	0.186	0.034	11.398	<.001	Yes
OIR	BEN	0.130	0.017	5.325	0.022	Yes
OIR	HEL	0.092	0.008	2.650	0.105	No
OIR	HRD	-0.067	0.004	1.700	0.193	No
OIR	PFA	-0.053	0.003	1.072	0.301	No
OIR	VPC	-0.095	0.009	3.434	0.065	No