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Events to Record: An Examination of Required Activation for Body-Worn Cameras

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By

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Abstract

There has been a lot of research on the effectiveness of body-worn cameras in policing including the impacts that body-worn cameras have on police officers, individual citizens, and the community. Results from prior literature show that police body-worn cameras are only sometimes highly effective. This project investigates why police body-worn cameras may not be effective by examining the required activation policies. Data for this project derive from the 2016 Law Enforcement Management Administrative Statistics – Body-Worn Camera Supplement (LEMAS-BWCS) study conducted by the Bureau of Justice Statistics. The main components of these data are the required events officers are to record, according to their policies, which are compared with complaints against officers, officer actions, and financial impact. This illustrates how required events to be recorded can impact agencies and external factors. This research has the potential to impact the policing field by highlighting areas in current body-worn camera policies that can be adjusted to improve effectiveness. Recently, there has been a high demand by many communities for the implementation of body-worn cameras to increase police accountability. For body-worn cameras to increase police accountability, they must be effective.

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Introduction

The prevalence of body-worn cameras (BWCs) deployed by police agencies began in the late 2000s and has since exploded across the country. A contributing factor to this was the high public demand of police accountability and the call for increased use of technology in the President's 21 Century Task Force (2015; 2022). Recent renewal of police transparency and accountability followed the deaths of George Floyd, Breonna Taylor, and many other minority individuals in 2020 (Willis, 2022). The thought behind the use of BWCs is that it allows police agencies to be more transparent when it comes to decision-making actions made by police officers, while in the past there has been low visibility on this issue (Katz & Huff, 2022). The increase in transparency has affected the communities in which body-worn cameras are used. A visible measurement of this effect is reduced citizen complaints against police officers. For example, Huff and colleagues (2020) found BWC activation significantly reduced the likelihood of a complaint against an officer. This shows that BWCs have made an impact in police transparency, however, this does not necessarily mean that they are making a significant enough of an impact to outweigh their cost.

Body-worn cameras are cameras worn by police officers to film interactions between the officer and citizens. These cameras are small devices that attach directly to the officer's uniform. They come in a variety of shapes, styles, and brands (Stoughton, 2017). To activate and deactivate these cameras, officers must manually turn them on and off. To power these devices, officers must plug in these devices to charge them. These devices have limited storage capacity and must have footage transferred to an alternative device to save storage space on the camera (Stoughton, 2017). The transfer of this footage is necessary for officers to screen through and review the footage from the camera (Stoughton, 2017). The cost of body-worn cameras adds up

quickly and could be a setback for police agencies when it comes to the decision on whether to implement BWCs or not. In this study, I review the major literature relating to the variance in BWC effectiveness, situations of use, officer compliance, officer behavior, hesitancy towards BWCs and BWC policies, and BWC activation policies. The data used add to the evidence base regarding BWCs by addressing the findings of previous studies.

Literature Review

BWCs Variation in Effectiveness

The effectiveness of BWCs can vary based on different aspects being investigated. For some aspects, BWCs have been proven to be effective while others have been proven to be not as effective. Several studies on different types of effectiveness of BWCs showed that BWCs, as they have been examined in the past, have not shown to be effective for the intended reasons the agencies had for implementing them. Primarily, many departments have deployed body-worn cameras to make citizens feel more comfortable and feel like police officers are being held accountable (Peterson & Lawrence, 2021). One measurement of BWC effectiveness in prior literature has been to look at the number of citizen complaints. One study showed that body-worn camera deployment decreased citizen complaints 29% and that for each month an officer wore a BWC, their citizen complaints dropped approximately 6% (Peterson & Lawrence, 2021). This shows that while the effectiveness of body-worn cameras against citizen complaints is still relatively low, there was a slight difference that is steadily increasing. Another way to measure the effectiveness of BWCs is by examining police use of force levels. Peterson and Lawrence (2021) also showed that in the first few months of body-worn camera deployment, there was a decrease in officers' use of force by 15%, however, after that there was a 2% increase in use of force situations. In other words, BWCs initially had a positive effect on decreasing use of force situations, however, over time they had a negative effect.

Prior literature has shown that BWCs are effective in some ways, such as reducing citizen complaints. When looking at other measures, like uses of force by officers, BWCs are still not considered effective, specifically in reducing the prevalence of force incidents (Peterson & Lawrence, 2021). Studies have also shown there are many factors that affect whether an officer

activates their body-worn cameras and are compliant with their agency's activation policies (Katz & Huff, 2022). Some of these factors include being under stress, being worried that their actions will not look good to higher officers, forgetting to activate their camera, and not knowing when they are supposed to activate their body-worn camera (Boivin et al., 2021). There have also been studies on compliance of body-worn camera policies showing that there are a wide range in levels of compliance. Studies have also shown that compliance levels vary over the length of time. In some cases, compliance decreases over a longer period and in other cases compliance increases over a longer period. The impact of these findings is that compliance over an extended amount of time often varies based on the agency's compositions and specific circumstances. There have also been some studies on specific BWC activation policies showing that policies are often confusing for officers and are not made by or in consultation with officers who wear the body-worn cameras (Willis, 2022). With little understanding of BWC policies, and declining compliance of body-worn camera policies over an extended period, prior literature shows that BWC policies may have a direct impact on compliance and have significant impact on officers and the communities they are serving.

Situations of Use

Another area of prior research on BWCs surrounds situations where the devices are most likely to be used. According to one study, BWCs are most likely to be activated during violent situations (Katz & Huff, 2022). This is because most violent situations are mandatory for most police agencies to record. In the same study, it was also noted that male police officers are more likely to activate BWCs than female officers and newer officers are more likely to activate BWCs than more senior officers with increased field experience (Katz & Huff, 2022). Katz and Huff based their study on Boivin and Gendron's study (2021). Boivin and Gendron's study also

considers the factors of the officer's characteristics, familiarity with technology, length of time, incident level, incident severity, police culture, organizational policies, and officer discretion having an impact on the compliance of officers and body-worn camera policies. The overall results of prior literature on this area align (Boivin & Gendron, 2021; Katz & Huff, 2022) align. These findings indicate that the likelihood of an officer activating their body-worn camera varies based off individual and agency factors, with notable emphasis on the organizational policies impacting activation (Boivin & Gendron, 2021; Katz & Huff, 2022).

Officer Compliance

A more recent factor in BWC research is police agencies' compliance with body-worn camera policies. For most agencies, there are several instances when a police officer is expected to record. These instances vary between agencies. Some recorded instances can include—but are not limited to—traffic stops, officer-initiated citizen contact, executing warrants, firearm deployments, routine service calls, criminal investigations, special operations, transporting prisoners, and policing public events (Hyland, 2018). Even with policy-mandated activation for these events, this does not guarantee officer compliance. In a study, there was an 82% activation compliance by police officers studied, but only 55.7% of those officers activated their body-worn cameras at least once (Martain et al., 2021). This means that while many of the officers were compliant with the policies, most officers hardly used their cameras at all. While most officers in the study were complying, they were still hardly getting any footage. In another study, there was a range of compliance rates from around 80% to below 70% (Boivin et al., 2021). Even with these higher compliance rates, there still tended to be a significant percentage of officers who were noncompliant with their agency's activation policies.

One factor frequently studied is the compliance of body-worn camera policies over time. Most studies (Boivin et al., 2021; Katz & Huff, 2022) found that the compliance of BWC policies tended to decrease after the first few months of implementation. In other words, when the policies were first introduced, they had high compliance rates, but over time those rates significantly decreased. There are a few studies that contradict this finding and showed an initial low compliance rate of around 3.69% across all officers, but over time, the compliance rate reached 53.54% (Lawrence et al., 2019; Peterson & Lawrence, 2021). It was explained that the likely reason behind such low activation rates was because, for the purpose of the study, officers were not notified to activate their BWCs and were not reprimanded if they did not comply (Lawrence et al., 2019).

Officer Behavior

One of the most prolific research areas for BWCs is the impact of body-worn cameras on officer behavior. According to Lum and colleagues (2019), they found 32 studies focused on the behavior of police officers when using BWCs. It is believed that BWCs hold police officers accountable for their actions and deter them from taking unconstitutional actions. It is also believed that body-worn cameras prevent officers from exhibiting untoward behaviors or misconduct when interacting with citizens, because their actions are being recorded (Lum et al., 2019). This leads to the question of the impact of BWCs on police use of force, as this is a direct result of officer behaviors and actions. Prior literature on the subject found that police officers who wear BWCs are less likely to use force than officers not wearing the devices. One study showed that—compared to the control group—the use of BWCs led to a 50% decrease in use of force instances (Henstock & Ariel, 2017). Another study showed that officers who wore BWCs had an 11.5% decrease in reports of officers having one or more reported use of force instances

(Braga et al., 2018). However, there are also studies that found BWCs have no significant impact on use of force (Lum et al., 2019). One of these studies, conducted by Ariel (2016), found that the formal reporting of use of force was 15% greater for officers with BWCs than their control group. In another contradicting example, Peterson and colleagues (2018) saw that after the implementation of BWCs, there was an increase in use of force incidents and that the group with BWCs had approximately 2.38% higher use of force rates than the control group. These studies show that not only did BWCs not have a significant impact on use of force situations, but in some instances, had the opposite reaction than intended. According to Ariel (2016), a potential explanation for this is the lack of uniformity in the definition of "use of force". Different agencies have different definitions of use of force and different protocols of use of force, whether it be filling out a formal report or only reporting of the incident in their pocketbook for less severe instances. This subjectivity could potentially be impacting the results of studies, but Ariel suggests that future studies will have to be conducted in order to clarify this. In other studies, use of force instances decreased 25% for the treatment group with BWCs, but there was also a 20% decrease in use of force instances for the control group (Headley et al., 2017). An explanation for this may come down to officer discretion. Some of these studies have shown that officers who wear BWCs, and have higher discretion over BWC activation, are more likely to use force than officers who do not have as much discretion in the activation of their body-worn camera (Ariel, 2016; Lum et al., 2019). A potential reason behind this is that officers who have more discretion are not required to activate their BWCs as often as officers who are not given as much discretion. This means that these officers do not have the additional pressure of knowing that their actions are being recorded and could keep their cameras off if they believe a situation may get out of

hand. While there is data supporting that BWCs could decrease the use of force by police officers, this is still not definitive as literature continues to be mixed in its findings.

Hesitancy Towards BWCs and BWC Policies

Many agencies are hesitant to adopt BWCs and organizational policies for them. A common reason for this is the cost associated with BWCs. These costs include the cameras themselves, digital storage, physical storage, charging equipment, and labor to go through the camera footage. According to one study, when asked their reasoning behind the agency not adopting BWCs, 76.7% of local agencies stated video storage and disposal cost concerns, 73.3% stated hardware cost concerns, 73.0% stated maintenance and support cost concerns, 69.1% stated public records requests and video redaction cost concerns, and 38.6% stated training cost concerns (Smith, 2019). These multiple costs add up and can be an obstacle for smaller agencies. However, such costs are typically less of an obstacle for larger agencies (Andreescu & Kim, 2022).

An additional reason why some agencies are hesitant to adopt body-worn cameras is due to police unions. According to Andreescu and Kim's (2022) findings, many police unions are against the introduction of the recording devices, with privacy concerns being a main concern for these unions. In their study, agencies without police unions tended to have fewer reports of officers being concerned over BWCs due to privacy reasons (Andreescu & Kim, 2022; White, 2014). Other research examining these privacy reasons also highlighted concerns over agency supervisors using the BWC footage to monitor officer behavior (Pyo, 2020; White, 2014). Similarly, Andreescu and Kim (2022) also found a correlation between current use of technology and willingness to use BWCs. This research found agencies that did not already have more up-to-date and advanced technology were less likely to be willing to adopt BWCs, likely attributed

to resistance to change and adaptation (Andreescu & Kim, 2022). The results of this can be seen in other research which found newer officers were more likely to be more compliant with newer activation policies than police officers who have been on the force longer (Katz & Huff, 2022). This is not surprising, as newer officers have not had the same amount of experience and are learning these policies as they are learning the job. Older officers, on the other hand, are having to relearn a large portion of their job due to the introduction of new technology and its associated policies.

BWC Activation Policies

Many police agencies currently have policies for the use and activation of body-worn cameras. Smith's (2019) evaluation of the 2016 LEMAS-BWCS study showed that 86% of the agencies surveyed indicated they had some level of formal BWC policies in place or were working on developing policies. In general, Smith (2019) found that 84% of all agencies sampled had policies on required events to record with body-worn cameras, and 87% of sampled agencies had policies for video transfer, storage, and disposal of footage. Additionally, more than 45% of the agencies in the study had policies that required officers to inform citizens they were being recorded by BWCs (Smith, 2019). Also, from the LEMAS-BWCS study, about 9 out of 10 agencies required recording traffic stops, one of the most common interactions between officers and civilians (Hyland, 2018).

A budding area of research surrounds BWC activation policies. Not all police departments have policies specifically regarding BWC activation, but those who do are constructed without the involvement of police officers (Willis, 2022), indicating those individuals likely involved in creating the policies, do not see the first-hand effects of the policies. Prior literature found current activation policies are often confusing to police officers

and makes it difficult for officers to know when to activate or deactivate their devices (Willis, 2022). This confusion can lead to a decrease in compliance levels because officers do not understand the policies they are required to comply with. When asked, most officers agreed that they would like those directly involved with using the devices to be more involved in the creation and decision-making process of BWC policies (Willis, 2022). The involvement of officers in the creation of these policies would allow those using the cameras to be able to provide feedback on what is confusing, what is working, and what is not working when it comes to the activation policies of BWCs. The involvement of officers using BWC's in developing policies may lead to higher compliance levels in BWC activation by police officers, allowing the cameras to be more useful.

Body-worn camera activation policies are important as they have a significant impact on officer discretion. Due to cost, privacy, data storage, and other logistics, it is unreasonable for officers to constantly have their BWC activated, requiring officer discretion on when they should activate their BWCs. Some agencies have BWC activation polies in place mandating the recording of certain incidents, but even with these mandates, it was found in a four-year Bureau of Justice Assistance Study that discretionary activation has become more common over time (White et al., 2019). The study found that 60-75% of agencies allow officers to use discretion over activation under certain circumstances (White et al., 2019). A 2018 study on officer discretion found that most officers want to have policies mandating events where body-worn activation is required but also still want to have a certain level of discretion when it comes to activating their BWCs (Newell & Greidanus, 2018). This same study also showed that higher ranking officers were in favor of lower levels of discretion compared to patrol officers (Newell

& Greidanus, 2018). The overall results of the study prove that while activation policies are necessary, a certain level of officer discretion must be maintained.

Body-worn camera activation policies also must consider privacy for both citizens and officers. There have been concerns over BWCs recording intimate relations and traumatic experiences of those interacting with officers (Maury, 2016). Some of the main concerns are whether the citizens recorded are notified that they are being recorded and whether officers could keep their BWC turned off under certain circumstances to protect privacy. Most agencies do not have policies requiring officers to inform citizens that they are being recorded by a BWC. In the four-year study mentioned earlier, it was found that 80% of agencies did not mandate for citizens be notified that they were being recorded, and about 40% of agencies recommended but did not mandate that citizens be notified whether they were being recorded (White et al., 2019). While some may argue that this is a violation of citizen privacy, in situations where a citizen is being arrested, they lose a reasonable expectation of privacy (Maury, 2016). Maury (2016) argues, however, that in places where a person has a reasonable expectation of privacy, such as in a private residence, citizens should be informed that they are being recorded and their consent should be given or the BWCs should not be activated. Regarding officers' ability to have their BWCs turned off to protect privacy, many agencies have policies in place that allow this to occur. In the four-year BWC policy study mentioned earlier, it was found that all FY 2016 and FY 2017 policies, and 84% of FY 2018 policies, addressed temporary BWC deactivation and listed permissible reasons for when officers either must turn off their cameras or can turn them off at their own discretion depending on the situation and agency (White et al., 2019). These permissible reasons include situations such as when conducting strip searches, during tactical discussions, speaking with confidential informants, speaking with victims of crime, when

officers go to the restroom, etc. This allows officers to protect the privacy of the victims they are interacting with and themselves.

Summary

There have been a wide range of studies on body-worn camera devices. The primary focus of many of these studies were the general concerns over BWC usage, officer behavior, and the different potentials for effectiveness of BWCs, such as in reducing complaints, reducing use of force, and officer compliance. Overall, there is a shortage of studies that focus on the BWC policies themselves, namely activation points with those policies. While some studies did address BWC activation policies, they primarily focused on whether agencies have policies in place or the reasons why agencies are implementing those policies, such as to reduce officer discretion and due to privacy concerns. However, there was a lack of studies on whether agencies' policies have a connection with the implementation of BWC programs and devices. Taken together, little research examined whether activation policies were impactful or were being used to help agencies achieve their intended outcomes of implementing BWCs.

Current Study

The purpose of the current study is to determine whether there are any correlations between the intent of BWC implementation at local agencies and whether these agencies have specific activation policies in place. The research question for the current study was: *Are policy-required activation points of BWCs associated with intended outcomes of implementing BWCs*? With this question, the intended outcomes of implementing BWCs investigated were to reduce complaints, reduce use of force, and to receive funding. These intended outcomes were compared with 11 different activation policies. The intention of this was to determine if there are any correlations between these intentions and BWC activation policies. There were 3 hypotheses for this question.

Hypothesis 1: Agencies who implemented body-worn cameras with the intent to reduce officer complaints would be more likely to have activation points within their BWC policies.

Hypothesis 2: Agencies who implemented body-worn cameras with the intent to reduce officer use of force would be more likely to have activation points within their BWC policies.

Hypothesis 3: Agencies who implemented body-worn cameras with the intent to receive funding would be more likely to have activation points within their BWC policies.

This question and the associated hypotheses are important because while there have been many studies on body-worn cameras in policing, as shown in the literature review, there have been very few studies focusing specifically on the activation policies of BWCs. The answers to this inquiry will lend itself to future research as well as a deeper exploration into the contents of BWC policies, specifically activation policy contents.

Methods

The data for the current study came from the 2016 Law Enforcement and Management Administrative Statistics Body-Worn Camera Supplement (LEMAS-BWCS) survey conducted by the United States Department of Justice and the Bureau of Justice Statistics. This supplement included a census of 15,810 general purpose law enforcement agencies, consisting of 12,695 local police departments, 3,066 sheriffs'/county offices and 49 primary state police departments. Local police departments and sheriffs'/county offices were chosen for the 2016 LEMAS-BWCS using a stratified sample design based on the number of full- and part-time sworn officers and agency type. The final sample size for the original data collection was 4,976 agencies. The total sample included 1,048 self-representing (SR) agencies with 100 or more sworn personnel and 3,928 non-self-representing (NSR) agencies employing fewer than 100 sworn personnel. SR agencies included 640 local departments, 359 sheriffs'/county offices, and 49 state law enforcement agencies. The NSR agencies were selected using a stratified random sample based on the number of sworn personnel and agency type. The total NSR sample included 3,067 local police agencies and 861 sheriffs'/county offices.

For the purposes of the current study, only local agencies who responded that they have fully deployed body-worn cameras to all intended personnel were included. This was a total of 745 agencies. To analyze whether body-worn camera policies are impacting different aspects of policing, only agencies with body-worn cameras were retained. Because there are differences in federal funding, resources, training, duties and responsibilities, jurisdictions, and more between different agency types (local police, sheriff's/county department, and state police) this study limited its final sample to only local, i.e., city/municipal police agencies. Local police agencies were selected to be studied over the other two types of agencies because local police agencies are

the most numerous types of agencies and are therefore the most common. This focus results in a total sample size of 745 agencies.

All the variables for the current study can be found in Table 1. The dependent variables in this study were whether agencies implemented body-worn cameras with the intent to *reduce officer complaints*, *reduce officer use of force*, and to *receive funding* that required the implementation of BWCs. Agencies were asked if they implemented BWCs due to each of these reasons. All responses were dichotomous. Agencies that responded that they acquired body-worn cameras to *reduce officer complaints* were coded as 1, and those who did not were coded as 0. Agencies that responded that they got BWCs to *reduce use of force incidents* were coded as 1, and those who responded that they did not were coded as 0. Agencies that responded that they acquired body-worn cameras to *receive funding* that required the purchase of BWCs were coded as 1, and those who did not were coded as 0.

Table 1: Variables included in Current Study

Dependent Variables	
Reduce Complaints	Yes=1, No=0
Reduce Force	Yes=1, No=0
Receive Funding	Yes=1, No=0
Independent Variables	
Policies Cover Events to Record	Yes=1, No=0
Policy-Required Events to Record	
Routine Calls	Yes=1, No=0
Traffic Stops	Yes=1, No=0
Officer-Initiated Contact	Yes=1, No=0
Firearm Deployments	Yes=1, No=0
Public Order Policing	Yes=1, No=0
Policing Public Events	Yes=1, No=0
Criminal Investigations	Yes=1, No=0
Special Operations	Yes=1, No=0
Warrant Executions	Yes=1, No=0
Transporting Offenders	Yes=1, No=0

In this study the independent variables were the body-worn camera activation policies. The different activation policy requirements included in the study were: *events to record*, *recording routine calls, recording traffic stops, recording officer-initiated contact, recording firearm deployments, recording public order policing, recording policing public events, recording criminal investigations, recording special operations, recording warrant executions*, and *recording transporting offenders*. Agencies were asked if they had policy requirements for each of these variables. All these variables are dichotomous in that they were recorded as either yes or no. Agencies that responded that they did have *policies on what events officers must record* with their BWCs were coded as 1, and those who did not were coded as 0. Agencies that responded that they have policies in place over officers recording *routine calls* with their BWCs were coded as 1, and agencies that did not were coded as 0. Agencies that responded that they

have policies in place over officers having to record *traffic stops* with their BWCs were coded as 1, and agencies that did not were coded as 0. Agencies that responded "yes" that they have policies on officers recording *officer-initiated contact* with their BWCs were coded as 1, and agencies who responded "no" that they did not have policies in place on recording officer-initiated contact were coded as 0. Agencies that responded that they have policies in place on officers recording *firearm deployments* were coded as 1, and agencies who did not were coded as 0. Agencies that responded that they have policies on officers recording *public order policing situations* with BWCs were coded as 1, and those who did not were coded as 0. Agencies that responded that they have policies in place covering recording *policing public events* with BWCs were coded as 1. Agencies that responded that they do not have policies in place for recording *policing public events* with BWCs were coded as 0. Agencies that responded that they have policies for recording *criminal investigations* on BWCs were coded as 1, and agencies that did not were coded as 0. Agencies that responded to having policies in place for officers recording *special operations* with BWCs were coded as 1, while agencies that did not were coded as 0.

Agencies that responded that they have policies for officers recording *warrant executions* with BWCs were coded as 1, and those who did not were coded as 0. Agencies that responded to having policies for officers recording the *transportation of offenders* with BWCs were coded as 1. Agencies that responded to not having any policies in place for officers recording the *transportation of offenders* with BWCs were coded as 0.

There are two types of chi-square tests. There is the chi-square test of independence and the chi-square test of goodness-of-fit test. For this study the chi-square test of independence was used. The chi-square test of independence tests whether there is a relationship between two things. This study was conducted to determine if there was a relationship between activation

policies of body-worn cameras and cost, complaints, and use of force. A chi-square test of independence specifically shows how likely random chance can explain observed differences between the actual frequencies in the data and theoretical expectations. Both the independent variables and dependent variables are dichotomous, or categorical variables. The chi-square test will help determine if there is a relation between costs, complaints, and use of force and body-worn camera activation policies. This is important because if the chi-square test shows associations between the reasons why agencies implemented BWCs and different BWC activation points within their policies it can show whether these agencies could potentially be taking steps to achieve the results they originally acquired BWCs for.

Results

The current study conducted several chi square tests of independence between the dependent variables: the intent to reduce officer complaints, reduce use of force, and the intent to receive funding, and each of the 11 independent variables. These independent variables intended to capture the activation points required within the BWC policies of those agencies who responded. The chi square analyses were conducted using the LEMAS-BWCS survey from the Bureau of Justice Statistics. These results can be found below in Tables 2-4, along with explanations of those significant results. When conducting this study, the hypotheses were that agencies who implemented body-worn cameras with the intent to reduce officer complaints, officer use of force, and to receive funding would be more likely to have activation policies in place. The following statistics are the significant findings which answer the research question posed in this project.

Associations with Reducing Citizen Complaints

For the agencies who implemented BWCs with the intentions of reducing citizen complaints, there were a total of 5 significant correlations (Table 2). For the comparisons between reducing citizen complaints and activation policies covering traffic stops, firearm deployments, and warrant executions were all found to be slightly significant. Policies covering events to record and officer-initiated contact were both significant when compared with reducing citizen complaints. As shown in Table 2, agencies that implemented body-worn cameras with the intent to reduce citizen complaints were more likely to report having activation policies in place that covered traffic stops, firearm deployments, warrant executions, events to record, and officer-initiated contacts, compared to the agencies that did not implement body worn cameras with the intent to reduce citizen complaints. All these variables had a positive correlation. Table 2 also

shows that most of the agencies, 578 out of 683, reported that they implemented body-worn cameras with the intent to reduce officer complaints.

Table 2: Presentation of results from Chi-Square Analysis with 2 Groups of Intentions behind Implementation: Officer Complaints

	Type of Intention						
	Intended to use BWCs to Reduce Citizen Complaints N	Intended to use BWCs to Reduce Citizen Complaints (%)	Did not Intend to use BWCs to Reduce Citizen Complaints N	Did not Intend to use BWCs to Reduce Citizen Complaints (%)	X^2 (df)	*p*	*Phi*
Policies Cover Events to Record**							
Required	566	90.30%	61	9.70%	7.372(1)	0.007	0.104
Not Included	12	21.40%	44	78.60%			
Routine Calls							
Required	468	89.80%	53	10.20%	.736(1)	0.391	-0.034
Not Included	99	92.50%	8	7.50%			
Traffic Stops*							
Required	544	90.80%	55	9.20%	4.177(1)	0.041	0.082
Not Included	23	79.30%	6	20.70%			
Officer-Initiated Contacts**							
Required	506	91.50%	47	8.50%	7.785(1)	0.005	0.111
Not Included	61	81.30%	14	18.70%			
Firearm Deployment*							
Required	510	91.20%	49	8.80%	5.211(1)	0.022	0.091
Not Included	57	82.60%	12	17.40%			
Public Order Policing							
Required	334	90.50%	35	9.50%	.053(1)	0.818	0.009
Not Included	233	90.00%	26	10.00%			

* Groups are significantly different ($p<.05$)

** Groups are significantly different ($p<.01$)

*** Groups are significantly different ($p<.001$)

Table 2 CONTINUED: Presentation of results from Chi-Square Analysis with 2 Groups of Intentions behind Implementation: Officer Complaints

	Type of Intention						
	Intended to use BWCs to Reduce Citizen Complaints N	Intended to use BWCs to Reduce Citizen Complaints (%)	Did not Intend to use BWCs to Reduce Citizen Complaints N	Did not Intend to use BWCs to Reduce Citizen Complaints (%)	X^2 (df)	*p*	*Phi*
Policing Public Events							
Required	171	91.90%	15	8.10%	.819(1)	0.365	0.036
Not Included	396	89.60%	46	10.40%			
Criminal Investigations							
Required	435	89.70%	50	10.30%	.862(1)	0.353	-0.037
Not Included	132	92.30%	11	7.70%			
Special Operations							
Required	335	90.30%	36	9.70%	.000(1)	0.992	0
Not Included	232	90.30%	25	9.70%			
Warrant Executions*							
Required	511	91.10%	50	8.90%	3.844(1)	0.05	0.078
Not Included	56	83.60%	11	16.40%			
Transporting Offenders							
Required	332	90.20%	36	9.80%	.005(1)	0.944	-0.033
Not Included	235	90.40%	25	9.60%			

* Groups are significantly different (p<.05)

** Groups are significantly different (p<.01)

*** Groups are significantly different (p<.001)

Associations with Reducing Force Instances

There were 8 significant correlations between the intent to reduce force incidents and the activation points within BWC policies (see Table 3). There was only a slight significance between the intent to reduce force and activation policies covering officer-initiated contacts, firearm deployment, and warrant executions. Policies covering events to record, special operations, and transporting offenders were all significant when compared with reducing use of force. Additionally, the comparisons between the intent to reduce force and BWC policies covering public order policing and policing public events were statistically significant at the .001 level. As shown in Table 3, agencies that implemented body-worn cameras with the intent to reduce officer use of force were less likely to report having activation policies in place that covered events to record, officer-initiated contacts, firearm deployments, public order policing, special operations, warrant executions, and transporting offenders, compared to the agencies that did not implement body worn cameras with the intent to reduce officer use of force. The findings also show that agencies that reported implementing body-worn cameras with the intent to reduce officer use of force were more likely to report having activation policies in place covering policing public events, compared to agencies that did not implement body-worn cameras with the intent to reduce officer use of force. Despite this, all mentioned significant variables, including those where agencies were less likely to report having these policies in place, had a positive association. Overall, the findings show that most of the agencies, 402 out of 683 responded that they did not implement body-worn cameras with the intent to reduce officer use of force.

Table 3: Presentation of Results from Chi-Square Analysis with 2 Groups of Intentions Behind Implementation: Force Incidents

	Type of Intention						
	Intended to use BWCs to Reduce Force Incidents N	Intended to use BWCs to Reduce Force Incidents (%)	Did not Intend to use BWCs to Reduce Force Incidents N	Did not Intend to use BWCs to Reduce Force Incidents (%)	X^2 (df)	*p*	*Phi*
Policies Cover Events to Record**							
Required	267	0.426	360	0.574	6.564(1)	0.01	0.098
Not Included	14	25.00%	42	75.00%			
Routine Calls							
Required	224	0.43	297	0.57	127(1)	0.721	0.014
Not Included	44	41.10%	63	58.90%			
Traffic Stops							
Required	258	0.431	341	0.569	.834(1)	0.361	0.036
Not Included	10	34.50%	19	65.50%			
Officer-Initiated Contacts*							
Required	244	0.441	309	0.559	3.968(1)	0.046	0.079
Not Included	24	32.00%	51	68.00%			
Firearm Deployment*							
Required	247	0.442	312	0.558	4.748(1)	0.029	0.087
Not Included	21	30.40%	48	69.60%			
Public Order Policing***							
Required	178	0.482	191	0.518	11.320(1)	0.001	0.134
Not Included	90	0.347	169	0.653			

*Groups are significantly different ($p<.05$)

** Groups are significantly different ($p<.01$)

*** Groups are significantly different ($p<.001$)

Table 3 CONTINUED: Presentation of Results from Chi-Square Analysis with 2 Groups of Intentions Behind Implementation: Force Incidents

	Type of Intention						
	Intended to use BWCs to Reduce Force Incidents N	Intended to use BWCs to Reduce Force Incidents (%)	Did not Intend to use BWCs to Reduce Force Incidents N	Did not Intend to use BWCs to Reduce Force Incidents (%)	X^2 (df)	*p*	*Phi*
Policing Public Events* **							
Required	106	0.57	80	0.43	22.134(1)	0.001	0.188
Not Included	162	36.70%	280	63.30%			
Criminal Investigations							
Required	212	0.437	273	0.563	.935(1)	0.334	0.039
Not Included	56	0.392	87	0.608			
Special Operations **							
Required	176	0.474	195	0.526	8.411(1)	0.004	0.116
Not Included	92	35.80%	165	64.20%			
Warrant Executions*							
Required	247	44.00%	314	56.00%	3.937(1)	0.047	0.079
Not Included	21	31.30%	46	68.70%			
Transporting Offenders **							
Required	173	47.00%	195	53.00%	6.830(1)	0.009	0.104
Not Included	95	36.50%	165	63.50%			

*Groups are significantly different ($p<.05$)

** Groups are significantly different ($p<.01$)

*** Groups are significantly different ($p<.001$)

Associations with Receiving Funding

For the dependent variable of whether agencies implemented body-worn cameras with the intent to receive funding, the activation point of special operations was the only significant association out of the 11 independent variables. As shown in Table 4, only 40 agencies responded that they implemented body-worn cameras with the intent to receive funding. Most agencies responded that they did not implement body-worn cameras to receive funding.

For this comparison, results show there was a slight significance between whether agencies implemented body-worn cameras with the intent to receive funding with whether agencies had policies covering special operations. Table 4 shows that agencies that implemented body-worn cameras with the intent to receive funding were less likely to report having activation policies in place covering special operations, when compared to agencies that did not report implementing body-worn cameras with the intent to receive funding. Despite this, there was still a positive correlation between agencies implementing BWCs with the intent to receive funding and having activation policies in place covering special operations. Overall, the findings show that only 40 out of 628 agencies implemented body-worn cameras with the intent to receive funding.

Table 4: Presentation of Results from Chi-Square Analysis with 2 Groups of Intentions Behind Implementation: Funding

	Type of Intention						
	Intended to use BWCs to Receive Funding N	Intended to use BWCs to Receive Funding (%)	Did not Intend to use BWCs to Receive Funding N	Did not Intend to use BWCs to Receive Funding (%)	X^2 (df)	*p*	*Phi*
Policies Cover Events to Record**							
Required	39	0.062	588	0.938	.066(1)	0.797	0.01
Not Included	3	0.054	53	0.946			
Routine Calls							
Required	32	0.061	489	0.939	.265(1)	0.607	-0.021
Not Included	8	0.075	99	0.925			
Traffic Stops							
Required	39	0.065	560	0.935	.435(1)	0.51	0.026
Not Included	1	0.034	28	0.966			
Officer-Initiated Contacts*							
Required	35	0.063	518	0.937	.013(1)	0.911	-0.004
Not Included	5	0.067	70	0.933			
Firearm Deployment*							
Required	38	0.068	521	0.932	1.566(1)	0.211	0.05
Not Included	2	0.029	67	0.971			
Public Order Policing***							
Required	29	0.079	340	0.921	3.329(1)	0.068	0.073
Not Included	11	0.042	248	0.958			

*Groups are significantly different ($p<.05$)

** Groups are significantly different ($p<.01$)

*** Groups are significantly different ($p<.001$)

Table 4 CONTINUED: Presentation of Results from Chi-Square Analysis with 2 Groups of Intentions Behind Implementation: Funding

	Type of Intention						
	Intended to use BWCs to Receive Funding N	Intended to use BWCs to Receive Funding (%)	Did not Intend to use BWCs to Receive Funding N	Did not Intend to use BWCs to Receive Funding (%)	X^2 (df)	*p*	*Phi*
Policing Public Events* **							
Required	17	0.091	169	0.909	3.401(1)	0.065	0.074
Not Included	23	0.052	419	0.948			
Criminal Investigations							
Required	32	0.066	453	0.934	0.186	0.666	0.017
Not Included	8	0.056	135	0.944			
Special Operations **							
Required	30	0.081	341	0.919	4.481	0.034	0.084
Not Included	10	0.039	247	0.961			
Warrant Executions*							
Required	37	0.066	524	0.934	.450(1)	0.502	0.027
Not Included	3	0.045	64	0.955			
Transporting Offenders **							
Required	27	0.073	341	0.927	1.395(1)	0.238	0.047
Not Included	13	0.05	247	0.95			

*Groups are significantly different ($p<.05$)

** Groups are significantly different ($p<.01$)

*** Groups are significantly different ($p<.001$)

Conclusion

The overall results of this study show multiple associations between agencies that implemented body-worn cameras with the intent to reduce complaints and the intent to reduce the use of force. The findings specifically show a highly significant correlation between agencies that implemented body-worn cameras with the intent to reduce officer use of force and having activation policies for both public order policing and policing public events. However, the findings also shows that there was only one significant association between agencies that implemented body-worn cameras with the intent to receive funding and activation policies. This was specifically for agencies with activation policies regarding special operations.

Discussion

The findings in this paper helped identify associations between the reasonings of why agencies are adopting body-worn camera programs and the activation policy contents. This addresses whether agencies are making efforts in their policies to address their intentions for implementing body-worn cameras. One key finding is that multiple significant associations were found between agencies that adopted body-worn cameras with the intent to reduce officer complaints and to reduce officer use of force. This suggests that agencies included in this study have made efforts in their policies to address their intentions to implement body-worn cameras to reduce both officer complaints and officer use of force. Another key finding in this study is that there is a strong association between agencies adopting body-worn cameras with the reasoning to reduce the use of force and agencies having activation policies for both public order policing and policing public events. This is a positive observation as it shows the potential correlation for most of the agencies that were studied that adopted body-worn cameras to reduce officer use of force have activation policies in place in situations where officers have a high likelihood of being in contact with large numbers of civilians. A third key finding is that the only association found for agencies that adopted body-worn cameras to receive funding is for activation policies associated with special operations. This is logical as only agencies with appropriate amounts of funding can conduct special operations, as they can be costly and require a lot of resources and personnel. The lack of association between agencies adopting body-worn cameras for funding reasons and having other types of activation points within their policies show that funding may not be a driving factor behind agencies implementing body-worn cameras. This finding ties back into prior literature, as lack of funding for body-worn cameras is often argued as an obstacle for agencies to adopt these types of programs.

The overall results of our findings do not refute the hypotheses, with the exception of the intent of adopting body-worn cameras to receive funding. For agencies that adopted body-worn cameras to reduce both officer complaints and the use of force, this study has found significant associations with multiple policies related to the agencies reasoning for adopting body-worn cameras. This suggests that agencies in this study that adopted body-worn cameras for these reasons have attempted to meet the overall expectations the agencies had set.

Although these findings hold merit to the conversation of the significance between body-worn cameras and the policies they are governed by, the current study is not without limitations. First, it should be noted that this study only focused on fully-deployed, local—municipal—agencies. Therefore, these results cannot be generalized to agencies that do not have the funding to fully deploy body-worn cameras or agencies that may receive additional funding, such as federal agencies. Additionally, the findings do not indicate the overall effectiveness of these policies, just that there were associations between the reasonings as to why agencies implemented body-worn cameras and the activation policies these agencies have in place.

While prior studies have found correlations between the use of BWCs and decreased reported uses of force or citizen complaints, few have investigated whether the body-worn activation polices have an impact on the decrease of these outcomes. The current study shows that agencies implementing BWCs with the intent of reducing force are placing more BWC activation points within their policies than agencies that did not implement BWCs with the intent of reducing force. Similar results were found for those agencies who implemented body-worn cameras with the intentions to reduce citizen complaints. Future research should investigate whether BWC activation policies are impacting decreases in recorded uses of force and citizen complaints. Overall, this study has shown that there are multiple correlations between agencies'

intended outcomes for implementing BWCs and various activation policies. As a result, this study has the potential to help the advancement of body-worn camera activation policy research.

References Cited

Andreescu, V. & Kim, D. (2022). Drivers of police agencies' resistance to body-worn camera adoption. *International Journal of Police and Science Management Vol. 24(4) 437–452*. https://journals.sagepub.com/doi/full/10.1177/14613557221126492

Ariel, B. (2016). Police body cameras in large police departments. *The Journal of Criminal Law and Criminology*, 106, 729– 768. https://www.jstor.org/stable/45163406

Boivin, R., & Gendron, A. (2021). An experimental study of the impact of body-worn cameras on police report writing. *Journal of Experimental Criminology*, 1–18. https://link.springer.com/article/10.1007/s11292-021-09469-8

Boivin, R., Poirier, B. & D'Elia, M. (2021). Activate compliance: A multilevel study of factors associated with activation of body-worn cameras. *Criminal Justice Review.* https://journals.sagepub.com/doi/full/10.1177/0734016820988327

Braga, A. A., Sousa, W. H., Coldren, J. R., Jr., & Rodriguez, D. (2018). The effects of body-worn cameras on police activity and police-citizen encounters: A randomized controlled trial. *Journal of Criminal Law and Criminology*, 108, 511– 538. https://scholarlycommons.law.northwestern.edu/jclc/vol108/iss3/3

Headley, A. M., Guerette, R. T., & Shariati, A. (2017). A field experiment of the impact of body-worn cameras (BWCs) on police officer behavior and perceptions. *Journal of Criminal Justice*, **53**, 102–109. https://www.sciencedirect.com/science/article/pii/S0047235217304257

Henstock, D., & Ariel, B. (2017). Testing the effects of police body-worn cameras on use of force during arrests: A randomised controlled trial in a large British police force.

European Journal of Criminology, 14(6), 720–750. https://doi.org/10.1177/1477370816686120

Huff, J., Katz, C., & Hedberg, E. C. (2020). A randomized controlled trial of the impact of body-worn camera activation on the outcomes of individual incidents. *Journal of Experimental Criminology*. https://link.springer.com/article/10.1007/s11292-020-09448-5

Hyland, S. (2018). Body-worn cameras in law enforcement agencies, 2016. *Bureau of Justice Statistics*. https://bjs.ojp.gov/content/pub/pdf/bwclea16.pdf

Katz, C. & Huff, J. (2022). The Achilles heel of police body-worn cameras: Understanding the factors that influence variation in body-worn camera activation. *Justice Quarterly*. https://www.research gate.net/publication/360581701

Lawrence, D., McClure, D., Malm, A., Lynch, M., & La Vigne, N. (2019). Activation of body-worn cameras: Variation by officer, over time, and by policing activity. *Criminal Justice Review*. https://journals.sagepub.com/doi/full/10.1177/0734016819846228

Lum, C., Stoltz, M., Koper, C., & Scherer, J. (2019). Research on body-worn cameras what we know, what we need to know. *Criminology & Public Policy Volume 18, Issue 1*. https://onlinelibrary.wiley.com/doi/full/10.1111/1745-9133.12412

Martain, B., Harinam, V., & Ariel, B. (2021). Linking body worn camera activation with complaints: The promise of metadata. *Journal of Criminology Volume 54, Issue 2*. https://journals.sagepub.com/doi/10.1177/0004865820976190

Maury, K. J. (2016). Police body-worn camera policy: balancing the tension between privacy and public access in state laws. *Notre Dame Law Review, 92(1),* 479-512. https://scholarship.law.nd.edu/ndlr/vol92/iss1/11/

Newell, B., & Greidanus, R. (2018). Officer discretion and the choice to record: officer attitudes towards body-worn camera activation. *North Carolina Law Review, 96(5),* 1525-1578. https://scholarship.law.unc.edu/nclr/vol96/iss5/8/

Peterson, B. & Lawerence, D. (2021). Do the effects of police body-worn cameras on use of force and complaints change over time? *Criminal Justice and Behavior Volume: 48 Issue: 6*. https://journals.sagepub.com/doi/full/10.1177/0093854820970583

Peterson, B. E., Yu, L., La Vigne, N., & Lawrence, D. S. (2018). The Milwaukee police department's body-worn camera program: Evaluation findings and key takeaways. Washington, DC: Urban Institute. urban.org/sites/default/files/publication/98461/

President's Task Force on 21st Century Policing. (2015; 2022). Final report of the President's Task Force on 21st Century Policing. *Washington, DC: Office of Community Oriented Policing Services*. cops.usdoj.gov/pdf/taskforce/taskforce_finalreport.pdf

Pyo, S. (2020). Contingency factors explaining policy adoption: Body-worn camera policy across US states. *Policy Sciences 53(3): 413–435*. https://link.springer.com/article/10.1007/s11077-020-09398-9

Smith, J. (2019). To adopt or not to adopt: Contextualizing police body-worn cameras through structural contingency and institutional theoretical perspectives. *Criminal Justice Review Vol. 44*. https://journals.sagepub.com/doi/10.1177/0734016819847267

Stoughton, S. W. (2017). Police body-worn cameras. *North Carolina Law Review, 96,* 1363-1424. https://scholarship.law.unc.edu/cgi/viewcontent.cgi?article=6681&context=nclr

Willis, J. (2022). “Culture eats strategy for breakfast”: An in-depth examination of police officer perceptions of body-worn camera implementation and their relationship to policy, supervision, and training. *Criminology & Public Policy*, *21*(3), 713–737. https://doi.org/10.1111/1745-9133.12591

White, M. D. (2014). Police officer body-worn cameras: Assessing the evidence. *Washington, DC: Office of Community Oriented Policing Services*. https://www.ojp.gov/ncjrs/virtual-library/abstracts/police-officer-body-worn-cameras-assessing-evidence

White, M. D., Flippin, M., & Malm, A. (2019). Key trends in body-worn camera policy and practice: A four-year policy analysis of US department of justice-funded law enforcement agencies. *Department of Justice*. https://bwctta.com/sites/default/files/inline-files/BWC%20Policy%20Analysis%20-%204th%20edition%20FINAL.Dec_.2019.pdf