

Caught on Camera: How Police Agencies Across the United States Perceive Body-Worn Cameras

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Abstract

In recent years, we have seen increased media attention upon issues in policing, including racial profiling and police brutality. As the nation continues to debate how to hold the police more accountable to the people whom they serve, body-worn cameras (BWCs) have arisen as a potential tool to increase officers' transparency. Utilizing data from the 2016 LEMAS-BWCS dataset, I aim to explore the factors that explain the differences in police agencies' levels of BWC optimism and skepticism. I find that year of implementation is a statistically significant indicator of an agency's level of BWC optimism, with agencies that adopted BWCs earlier expressing higher levels of optimism than those that adopted BWCs more recently. I do not find the same pattern for an agency's level of BWC skepticism. I find that agency size is a statistically significant indicator of an agency's level of BWC skepticism, with larger agencies expressing higher levels of skepticism than smaller ones. My results suggest fruitful avenues for future research in factors that may influence an agency's perception of BWCs.

Keywords police, policing, body-worn cameras (BWCs)

Introduction

In the United States, the relationship between the police and the public has become increasingly contentious. The perception of police officers as protectors and providers of peace has diminished due to widely publicized police shootings of unarmed—often non-white—civilians. Further adding to the tension, the police officers who commit these killings are usually acquitted of all charges (Ross 2019). Consequently, Americans increasingly feel as though the police are not held accountable for their actions, and the gulf between police officers and the communities they are intended to serve widens (Lum et al. 2019).

For some, body-worn cameras (henceforth referred to as BWCs) could potentially serve as a solution to this pressing question of accountability. The National Institute of Justice defines BWCs as “mobile audio and video capture devices that allow officers to record what they see and hear,” boasting “the capability [of recording] officer interactions that previously could only be captured by in-car or interrogation room camera systems” (NIJ 2012). By ensuring that police officers are just as carefully watched as employees in other, less authoritative, service sectors, officers may be less inclined to resort to excessive force in their interactions with civilians.

In December 2014, four months after the tragic events of Ferguson, President Barack Obama iterated his commitment to increasing the transparency and accountability of the police by allocating federal money across thirty-two states to research BWCs (Dann and Rafferty 2014). The following May, the Department of Justice announced a BWC pilot program, the goal of which was to train officers in the use of BWCs and examine the impact of this technology on policing (Jackson 2015). Despite the president’s directive, there is no overarching federal law requiring police agencies to adopt BWCs. Instead, the initiative has been primarily state-driven.

Overall, as of 2018, approximately thirty states, as well as the District of Columbia, have

drafted some sort of legislation pertaining to the implementation of BWCs (Ansari 2018). The first wave, during which many states adopted BWC policies, lasted from 2014 to 2015 and was, in large part, a reaction to the events of Ferguson. The second wave, from 2015 to 2016, focused more on specific policies, determining which types of officers should be outfitted with BWCs and how the agencies could train their officers in the nascent technology (Ansari 2018). Since 2017, states have been pushing for a standardization of BWC policies, to ensure that there are not state-wide disparities in how BWCs are being utilized, as agencies are granted much discretion as to how they will implement the technology (Ansari 2018). Thus, BWCs are a relatively new technology, and we are not yet certain of their utility. Will BWCs make police officers more accountable to the people, or will their effects be negligible?

In this paper, I utilize data from the 2016 Law Enforcement Management and Administrative Statistics Body-Worn Camera Supplement (LEMAS-BWCS), from the Bureau of Justice Statistics (BJS), to parse the opinions of police agencies across the United States regarding their optimism and skepticism about the potential of BWCs. Specifically, I aim to determine whether agencies differ in their opinions on BWCs based on (i) region and (ii) year of implementation, while controlling for (i) agency type, (ii) agency size, and (iii) number of full-time employees. I find that only the year of implementation is a statistically significant indicator of an agency's optimism about the potential of BWCs, with agencies that implemented BWCs earlier expressing higher levels of optimism than those that implemented BWCs more recently. Contrariwise, agency size is a statistically significant indicator of an agency's skepticism about the potential of BWCs, with larger agencies expressing higher levels of BWC skepticism than smaller ones. My exploratory study with the 2016 LEMAS-BWCS dataset has implications for the field of policing, illustrating the complications of studying the police—and, more precisely,

BWCs. The true effects of BWCs may take years to materialize. Until then, we can only continue monitoring their use in the field, leaning upon both quantitative and qualitative methods to more meaningfully discuss their effects on both police officers and the public.

Literature Review

The traditional political science literature on law enforcement posited that force is a fundamental aspect of policing in the contemporary world (Bittner 1970). Yet, law enforcement agencies in the United States have always been criticized for their over-use of—and, quite frankly, reliance on—force to achieve their ends (Nelson 2001). This undue application of force has dire consequences, devastating police-community relations and fostering a severe sense of mutual distrust (Littlejohn et al. 1984; Braga et al. 2014). Instead of seeking to remedy this divide through policies that would encourage community policing and thus foment greater trust between officers and civilians, however, law enforcement agencies instead adopted controversial policing tactics, such as the New York Police Department’s (NYPD) now defunct Stop-and-Frisk—a policy that unduly targeted non-white civilians (Tyler and Fagan 2012). Expectedly, such law enforcement measures have merely exacerbated the tension between police officers and their communities, the ultimate consequence being civilians’ diminished trust in the police as neutral arbiters of justice. Truly, in recent years, the question of how police officers should be “policed” has become more prevalent in the literature (Fridell 2016; Lim 2017). Goldsmith (2010) argued that police misconduct has always been an issue of accountability; the advents in technology have merely awarded the people more power in holding police officers accountable. To Chan (1999), police accountability can be construed in two ways: the control of the police, or officers’ ability to explain their actions in the field.

Indeed, police need to be able to explain why and when they resort to aggressive policing tactics. Aggressive policing tactics can range from unduly detaining a certain class of citizens (eg. racially discriminatory policing policies, such as the aforementioned NYPD's Stop-and-Frisk) to officers' use of excessive force in police-civilian encounters, the latter of which results in severe injury—or even death—of the civilian. Other instances of aggressive policing tactics include, but are not limited to (i) the restriction of minorities' mobility (Bass 2001a), (ii) increased levels of detainment and community surveillance (see Fagan and Davies 2000; Hurst et al. 2000; Weitzer 1999), (iii) the rise in police officers' use of undue force (Weitzer 1999), (iv) increased instances of police misconduct (Kane 2002), and (v) decreased response times to crises and fewer police services (Klinger 1997). Soss and Weaver (2017, 571), for their part, deem the current rise in aggressive policing tactics a “pivot toward violations of order.” In several respects, the contemporary literature on policing in the United States has been dominated by discussions of (i) how police officers are socialized (Cohen 2017; Soss and Weaver 2017), (ii) whether the chain of hierarchy actually encourages officers on the beat to resort to aggression with suspect civilians (Cohen 2017), and (iii) if technological advancements (such as body-worn cameras) can properly address these concerns by providing more transparency and accountability (Lum et al. 2019).

Until fairly recently, political science, as a field, had failed to consider policing to be a political matter. Lerman and Weaver (2014) altered this by framing aggressive policing tactics in a decidedly political light. They argued that the policing literature has already hinted at the political ramifications of aggressive policing tactics; for instance, prior studies had suggested that citizens learn about the intricacies of government operations through their personal interactions with local agencies, such as the police (Forman 2004; Soss 2005). As such, negative interactions with the police are more likely to have a chilling effect on citizens' broader perceptions of the state. In

extreme cases, such alienated citizens may become less likely to reach out to their local government, instead choosing “politics of invisibility” (Cohen 2010, 195). Yet, high levels of interactions with the police need not result in decreased faith in the state. Echoing the conclusions of Griffiths and Winfree (1982) and Leiber, Nalla, and Farnworth (1998), who had argued that communities that experience high amounts of police-civilian contact are not necessarily adversely impacted by these interactions, Lerman and Weaver (2014, 217) found that “the prevalence of police activity may be associated with higher levels of local engagement.” In these instances, citizens may feel more closely connected to the police force and trust officers to protect their communities. A high visibility of police officers, therefore, may actually encourage citizens to feel safer and more politically active in their communities.

However, officers’ *overuse* of force has a chilling effect on community members’ sense of political efficacy, thus decreasing the likelihood of the community members reaching out to their local government when they are in need of assistance. Hence, aggressive policing tactics directly impact citizens’ engagement with not only the police, but their local government (Lerman and Weaver 2014). The consequences of aggressive policing tactics could, on a large scale, be democratically catastrophic, with lower voter turnout from affected communities, higher rates of political alienation, and decreased levels of trust in government. Due to the racially motivated nature of aggressive policing tactics, an alarmingly large number of Americans—whom Lerman and Weaver deem “custodial citizens”—are now questioning whether they are, in fact, full-fledged citizens. This “diminished belief in [the] equality of citizenship,” for its part, translates into decreased levels of political trust, efficacy, and participation (Lerman and Weaver 2014, 16-17). Disillusionment with the system, then, translates into outright apathy, with citizens actively and consciously opting out of all sorts of civic activities, from participation in social groups to voting.

Hence, aggressive policing tactics can also demobilize and, in the most extreme cases, disenfranchise citizens.

Certainly, because of the political ramifications of aggressive policing tactics, safeguards should be implemented to increase police officers' transparency in the field (Morton 2018). BWCs, for their part, are intended to provide this transparency—and, relatedly, to make the police more accountable to the people whom they serve. While BWCs boast several purposes, arguably, the most crucial is “[improving] behavior of both police officers and citizens during their encounter” (Gramaglia and Phillips 2018, 314). BWCs capture the scene in as unbiased and neutral a way as possible, allowing police officers' and citizens' stories about what transpired to either be corroborated or disproven. By no means, however, are BWCs a perfect technology; despite their novelty, many issues have already arisen regarding their utility. Though BWCs do, theoretically, present the scene in an impartial manner, “technology is often filtered through—and shaped by—human factors” (Lum et al. 2019, 95). Indeed, agencies have much discretion on whether to release videos to the public, and if they do, there is always the worry that the clip has been edited in such a way that it is no longer an accurate representation of what truly transpired (Lum et al. 2019). And, even though BWCs have the potential to protect both civilians and officers in the field, many police officers have expressed their aversion to BWCs, contending, for instance, that BWCs would inhibit their ability to work effectively and infringe upon their overall security in the field (Gramaglia and Phillips 2018).

Undoubtedly, police culture plays a role in why some officers are more resistant to technological advances such as BWCs. Some studies have suggested that officers' overuse of force may in fact be due to officers' deep, unwavering commitment to the “institutional or organizational culture” surrounding their societal role as unmatched wielders of power in their communities

(Ariel, Farrar, and Sutherland 2014, 513). Officers who see themselves, first and foremost, as holders of power are more likely to express aversion to any changes that threaten to reduce their authority (Lester 1996; Terrill et al. 2003). More explicitly, police cultural norms, such as the code of silence, may decrease officers' willingness to embrace BWCs, as they perceive this encroaching technology as a way of diminishing the police's institutional legitimacy (Skolnick 2008). Police hold a unique role in society, as they have been "granted the legitimate use of coercion" against civilians (Paoline 2003, 201). Truly, the job of a police officer is one rife with risks and dangers. To protect themselves and their communities, police officers must ensure that their authority is not compromised in the field. This well-intentioned action has the adverse potential, though, to result in officers resorting to coercive tactics that are not particularly warranted for the given situation (Skolnick 1994).

More specifically, police subculture—that is, the environment and policies of individual agencies—also plays a role in officers' perceptions of their societal role and how they should interact with civilians. Officers who exhibit high levels of loyalty to their agency further exacerbate the aforementioned code of silence, rendering it more difficult to investigate possible instances of officers' excessive use of force in the field (Skolnick 2008). Increasingly, there have been questions as to whether the chain of hierarchy in police actually encourages police officers to resort to aggression with suspect civilians (Cohen 2017). We would expect these sorts of agencies—agencies that encourage officer coercion—to express higher levels of resistance to BWCs, as BWCs would inhibit officers' ability to act in such aggressive manners. In her research, Lin (2000) analyzed prison policies, but her findings extend to police policies, in general. Lin's argument is that the prison staff, as a collective, is largely responsible for the success of a particular program. If the staff perceives a given program as being complimentary to the needs of the prison, then the

staff is more likely to express support for the program in question. Furthermore, programs are more successful in a prison environment that encourages staff-prisoner communication, rather than an all-consuming “us versus them” mentality (Lin 2000). The same logic can be applied to police agencies. Agencies that encourage close police-civilian relations and perceive BWCs as inherently beneficial are expected to report higher (lower) levels of optimism (skepticism) regarding the implementation of BWCs.

Findings on police officers’ perceptions of BWCs have been mixed, and predominantly relegated to urban communities. Police officers in Phoenix, AZ, for example, were skeptical of BWCs, with only one-third of those surveyed reporting that BWCs would be easy to implement (Katz et al. 2014). Police officers in Los Angeles, CA were equally reticent, with one-third of the officers surveyed claiming that BWCs would make them feel safer on patrol (Uchida et al. 2016). In Phoenix, AZ, Spokane, WA, and Tempe, AZ, over half of the police officers surveyed reported that BWCs would both increase their professionalism and affect whether they would resort to force (Gaub et al. 2016). Similarly, police officers in Orlando, FL expressed rather high levels of support for BWC implementation, claiming that BWCs could serve to improve both civilians’ and officers’ behaviors in the field (Jennings et al. 2014). While most of the studies on police officers’ perceptions of BWCs have been conducted in the “sun belt” regions of the West and South, recently, more findings have emerged about “rust belt” agencies in the Midwest and Northeast (Gramaglia and Phillips 2018). Looking at a small number of agencies in the Midwest and South, Kyle and White (2016) found that police officers’ attitudes about the utility of BWCs were related to their sense of fairness in both decision processes and outcomes. Police officers in Buffalo, NY and Rochester, NY, for their part, claimed that while they believed BWCs would influence their decision to use force, they were less optimistic that BWCs would improve civilians’ behavior in

the field (Gramaglia and Phillips 2018).

Thus, the field is not entirely conclusive on whether police officers perceive BWCs as a helpful tool or a hindrance. Accordingly, more work must be done to parse these somewhat contradictory claims and analyze police officers' perceptions of BWCs on a *national* scale. My paper aims to provide this national scope, building off literature that has previously examined a limited number of (mostly urban) agencies. The 2016 LEMAS-BWCS is the best equipped dataset to do so, as it is a national survey of police agencies across the United States that focuses only upon BWCs. Through the dataset, we can more meaningfully answer questions about the factors that may explain the disparate views in police perceptions of BWCs. Are there regional differences in police agencies' levels of optimism concerning BWCs? Is the year in which BWCs were implemented a significant indicator of an agency's optimism of the utility of BWCs?

Theory

Recently, Lum et al. (2019) conducted a survey of the literature on BWCs. They found that, out of the seventy publicly available research articles on BWCs, more than half have focused upon the impacts of BWCs on officers' behavior and officers' attitudes about BWCs. My study falls into the broad category of "Officers' Attitudes Toward Body-Worn Cameras," as the 2016 LEMAS-BWCS dataset solely presents police agencies' perceptions of BWCs. Previously, most of the studies that centered upon officers' perceptions of BWCs occurred within a single agency. The 2016 LEMAS-BWCS allows us to expand the scope of our inquiries, analyzing agencies from across the United States and aggregating their levels of optimism and skepticism concerning the implementation of BWCs. With this nationalized data, I am better equipped to test some of the theories in the literature of the factors that may explain agencies' levels of optimism and skepticism

regarding the implementation of BWCs. Studies of BWCs are still nascent; we are not yet fully aware if BWCs have lived up to their intended purpose by increasing the transparency and accountability of the police.

Region may affect police agencies' acceptance of nascent technology. Nisbett (1993) suggested that there are regional differences in violence across the United States, with higher homicide rates in the West and South than the North. For Nisbett, this regional difference in inclination toward violence is, in large part, due to the honor culture of the West and South, where violence has traditionally been utilized to protect one's reputation. Other scholars have theorized that there are regional differences in childhood socialization concerning violence, with Southerners expressing higher levels of acceptance toward disciplinary acts than their Northern counterparts (Cohen et al. 1996). Because of this, it can be implied that police agencies in the West and South differ from those in the North concerning how to interact with civilians. If the cultures of the West and South are so different from that of the North, then divergent policing strategies must be adopted to ensure that communities are protected. Murphy (1998), for his part, argued that the movement toward the professionalization of police forces is especially founded in the West, thus suggesting that Western police agencies will express higher levels of optimism for measures that are intended to promote professionalization and the quality of evidence gathering. Moreover, regions differ in their hiring skew, with police agencies in the "sun belt" region of the nation being significantly more likely to hire female officers than those in the "rust belt" region of the nation (Steel and Lovrich 1986; Warner, Steel, and Lovrich 1989).

While these studies offer theories about how police agencies across the United States may view BWCs, there have been no meaningful studies specifically examining *regional* differences in police culture. When police officers in the United States have been compared cross-nationally,

the United States has been regarded as one, homogeneous entity (Harper et al. 2011), without a discussion of regional differences. Numerous studies have been conducted comparing rural police agencies to urban ones. As opposed to their urban counterparts, rural agencies express lower levels of resistance to changes and are, by and large, less wary of the communities they serve (O'Shea 1999). Yet, again, the rural and urban divide between police agencies does not encompass the regional differences that must exist between, for instance, a rural agency in the South and a rural agency in the Northeast.

I aim to combine elements of the above findings to pioneer a temporal and regional theory concerning agency differences in level of BWC optimism (skepticism). First, it has been theorized that officers' perceptions of BWCs become increasingly positive as time goes on (Fouche 2014; Gaub, Todak, and White 2018). As officers continue to wear BWCs and experience their utility in the field, they progressively view BWCs as added protection from unwarranted complaints, false misconduct allegations, or aggressive encounters with civilians (Fouche 2014). Consequently, officers more experienced with BWCs increasingly view the technology as improving their ability to collect and store evidence (Gaub, Todak, and White 2018; Jennings, Lynch, and Fridell 2015; Katz et al. 2014).

Hypothesis 1: Across all regions, police agencies that adopted BWCs earlier will express higher (lower) levels of optimism (skepticism) concerning BWC implementation than agencies that adopted BWCs more recently.

Further delineating the regional differences in police culture, I argue that the West and South operate under a different prevailing culture than the Northeast and Midwest. Because of the

honor culture of the West and South (Nisbett 1993), as well as the higher rates of violence, police agencies in the West and South have had to be more proactive in embracing measures that professionalize the police force (Murphy 1998) and protect officers from unruly civilians. Police agencies in the West and South are thus theorized to express higher (lower) levels of BWC optimism (skepticism), as they are, due to the higher instances of violence in their region, more inclined to view BWCs as protecting them from the public. Furthermore, agencies in the “sun belt” region are more open to hiring women than agencies in the “rust belt” region (Steel and Lovrich 1986; Warner, Steel, and Lovrich 1989). Agencies that are more open to hiring women are, in turn, expected to be more open to acquiring technologies that may improve their public image. Thus, due to the regional differences in police culture, I expect agencies in the West and South to express higher (lower) levels of BWC optimism (skepticism).

Hypothesis 2: Police agencies in the West and South will express higher (lower) levels of optimism (skepticism) concerning the implementation of BWCs than those in the Midwest or Northeast because of the regional differences in police culture.

Design

Utilizing data from the 2016 LEMAS-BWCS dataset¹, I aim to perform an exploratory analysis of police agencies’ levels of optimism and skepticism concerning BWC implementation. The 2016 LEMAS-BWCS was conducted by the United States Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, from 2015 to 2016. Agencies were chosen according to a stratified sample design, intended to be representative of the reality of police agencies across

¹ The 2016 LEMAS-BWCS is publicly available, and can be found at: <https://www.icpsr.umich.edu/icpsrweb/NACJD/studies/37302/summary>.

the nation. Impressively, the LEMAS-BWCS supplement is the first of its kind to explore a single policy in so much depth, providing data on nearly 4,000 agencies' perceptions of BWCs. For my purposes, I am analyzing only those agencies that have both acquired BWCs and answered all the questions that encompass their levels of optimism and skepticism concerning BWC implementation. Thus, my sample size is 785 for the optimism index and 780 for the skepticism index.

The dependent variables are agencies' levels of optimism and skepticism concerning BWC implementation. I created two indices—one for level of optimism and one for level of skepticism. First, the optimism measure contains six questions from the survey that pertain to agencies' confidence regarding BWC implementation.² The index ranges from 1 to 4, with 1 indicating the lowest level of optimism (essentially reporting “Strongly Disagree” or “Disagree” for all six of the measures) and 4 indicating the highest level of optimism (essentially reporting “Strongly Agree” or “Agree” for all six of the measures). Second, the skepticism measure contains eight questions from the survey that pertain to agencies' doubts regarding BWC implementation.³ The index ranges from 1 to 4, with 1 indicating the lowest level of skepticism (essentially answering “No” for all eight of the measures) and 4 indicating the highest level of skepticism (essentially answering “Yes” for all eight of the measures).

The explanatory variables are the region and year of implementation. As defined by the United States Bureau of the Census, there are four regions in the nation: West, Midwest, South and Northeast. Colloquially in the policing literature, the West and the South are jointly referred to as the “sun belt” region, while the Midwest and Northeast are jointly referred to as the “rust belt” region. Year of implementation ranges from 2000 to 2016. I also control for agency type (i.e.

² See questions compiled into the optimism index in the Appendix.

³ See questions compiled into the skepticism index in the Appendix.

local or sheriff), agency size, and number of full-time officers, to ensure that the capacity of the agency is taken into consideration. In this study, I aim to parse the explanatory power of region and year of implementation on agencies' perceptions of BWCs.

The paper unfolds as such. First, I will provide descriptive statistics on whether the differences in levels of optimism among the regions are truly meaningful. Second, I will employ an OLS model to analyze levels of BWC optimism across agencies, controlling for agency capacity. Third, I will provide descriptive statistics on whether the differences in levels of skepticism among the regions are truly meaningful. Fourth, I will employ an OLS model to analyze levels of BWC skepticism across agencies, controlling for agency capacity. Finally, I will discuss the implications of my results and offer avenues for future research.

Results and Discussion

Do the regions meaningfully differ from one another concerning BWC optimism? Table 1 (below) displays the mean levels of BWC optimism across all four agencies, aggregating data points from 2000 to 2016. The West and South jointly express the highest levels of optimism, with

Table 1. Region and Mean Level of BWC Optimism

Region	Mean Level of Optimism	Standard Error	95% CI
West	3.29	.05	(3.18, 3.40)
Midwest	3.14	.05	(3.05, 3.23)
South	3.29	.04	(3.22, 3.36)
Northeast	3.13	.10	(2.94, 3.32)

a mean score of 3.29 (out of 4).

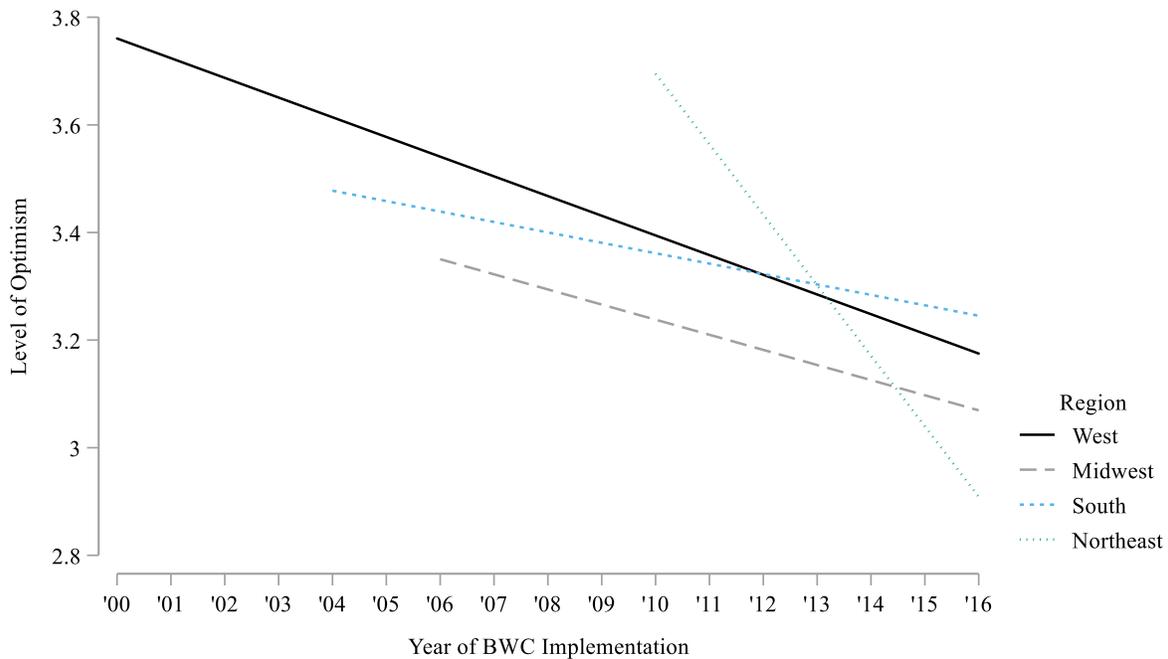
The Midwest's mean level of optimism is slightly higher than the Northeast's, with the former reporting a mean score of 3.14 and the latter reporting a mean score of 3.13.

Conducting lincom tests

Source: 2016 LEMAS-BWCS

further demonstrates that only the differences in optimism between the Midwest and West and the Midwest and South are statistically significant, at p-values of .04 and .01, respectively. Thus, I cannot be certain, based on the data, that the differences between the other regions are not 0. While Table 1 provides loose, partial support for Hypothesis 2, I am not convinced that the differences between the Northeast and West and the Northeast and South are statistically meaningful. More work must be done to parse these effects—including taking year of implementation into account.

Figure 1. Police Agencies' Level of Optimism Concerning BWCs
By Region and Year



Source: 2016 LEMAS-BWCS

Figure 1 (above) displays police agencies' level of BWC optimism, by region and year. As hypothesized, the trend, across all four regions, is that, the earlier an agency adopted BWCs, the more optimistic the agency is regarding the technology. Western agencies that adopted BWCs in 2000, for instance, report the absolute highest level of optimism, with a score just below 3.8 (out of 4). Northeastern agencies that adopted BWCs in 2016, on the other hand, report the absolute lowest level of optimism, with a score of approximately 2.9. Across all four regions, the highest

reported level of BWC optimism occurs in the earliest year, as the highest score for the West is in 2000, the highest score for the South is in 2004, the highest score for the Midwest is in 2006, and the highest score for the Northeast is in 2010. Relatedly, across all four regions, the lowest reported level of BWC optimism occurs in the most recent year, as the lowest score, cross-regionally, is in 2016. Overall, these results lend support for Hypothesis 1, as the year of implementation appears to be a strong predictor of an agency's level of BWC optimism, with agencies that adopted BWCs earlier expressing higher levels of optimism than those that adopted BWCs more recently. The trend, across all four regions, is a negative one—especially in the Northeast, which, between 2010 and 2016, experiences the most drastic decrease in level of optimism of all regions.

Table 2. Factors in Police Agencies' BWC Optimism

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
Year	-.032** (.01)		-.032** (.01)		-.033** (.01)
Region		.003 (.03)		.004 (.03)	.017 (.03)
Agency Type			.006 (.12)	-.006 (.13)	.009 (.12)
Agency Size			.000 (.02)	.000 (.02)	-.000 (.02)
Full-Time			.000 (.00)	.000 (.00)	.000 (.00)
Constant	67.6** (22.2)	3.23*** (.08)	67.1** (22.3)	3.22*** (.12)	70.0** (22.5)
R²	.001	.002	.011	.001	.012
N	785	785	785	785	785

NOTE: * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Source: 2016 LEMAS-BWCS

Table 2 (previous page) displays the results of the OLS regression, determining factors in police agencies' BWC optimism. Providing further support for Hypothesis 1, Table 2 illustrates that only year of BWC implementation is a significant indicator of an agency's level of BWC optimism, with agencies that adopted BWCs earlier expressing higher levels of optimism than those that adopted BWCs more recently. Unexpectedly, region does not appear to have a statistically meaningful effect on an agency's level of BWC optimism. Hence, Figure 1 and Table 2 provide no support for Hypothesis 2, as agencies in the "sun belt" region do not differ in a statistically significant way from their counterparts in the "rust belt" region. The low R^2 values suggest that these factors do not, on their own, explain the variation in agencies' levels of BWC optimism. In sum, the results provide support for Hypothesis 1, as agencies that adopted BWCs earlier, cross-regionally, report higher levels of BWC optimism than those that adopted BWCs more recently, and no support for Hypothesis 2, as region does not have a statistically significant effect on an agency's level of BWC optimism.

The results for regional differences in BWC skepticism are even more unexpected. Table 3 (below) displays the mean levels of BWC skepticism across all four agencies, aggregating data points from 2000 to 2016.

Surprisingly, the West reports the highest mean level of skepticism, with a score of 1.76 (out of 4). Though this does not indicate an overall high level of skepticism, as a 3 or above would signal, it is noteworthy that the West is, on

Table 3. Region and Mean Level of BWC Skepticism

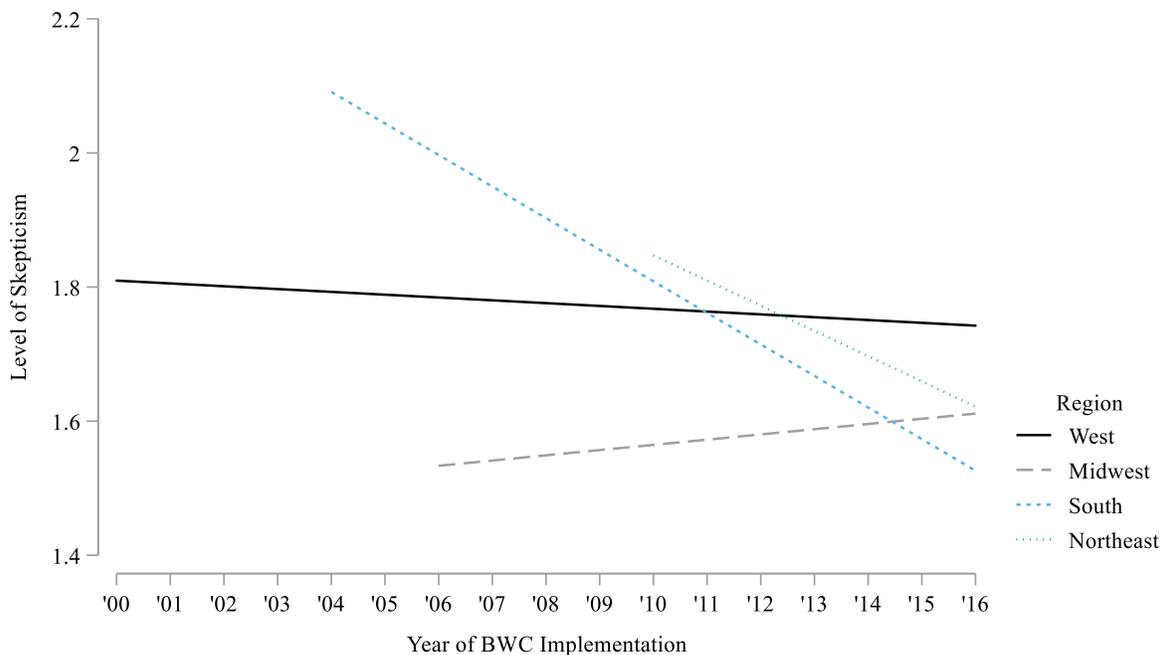
Region	Mean Level of Skepticism	Standard Error	95% CI
West	1.76	.07	(1.62, 1.89)
Midwest	1.59	.05	(1.49, 1.70)
South	1.63	.04	(1.55, 1.71)
Northeast	1.69	.12	(1.45, 1.92)

Source: 2016 LEMAS-BWCS

average, both the most optimistic concerning BWC implementation (see Table 1) and the most skeptical. Also surprisingly, the Midwest reports the lowest mean level of skepticism, with a score of 1.59. These results run contrary to my expectations, as I had hypothesized that the West and South would express the lowest levels of BWC skepticism while the Northeast and Midwest would express the highest. Thus, Table 3 provides no support for Hypothesis 2.

Conducting lincom tests, however, demonstrates that none of the differences among the regions are statistically meaningful. Hence, based on these results alone, I cannot be certain that the differences in the regions' reported levels of BWC skepticism are not 0. The mixed results of Tables 1 and 3 illustrate that region, alone, does not explain the whole story regarding police agencies' levels of BWC optimism or skepticism. Perhaps taking the year of implementation into account will help parse these relationships, providing greater clarity on what is driving agencies' level of BWC skepticism.

Figure 2. Police Agencies' Level of Skepticism Concerning BWCs
By Region and Year



Source: 2016 LEMAS-BWCS

Figure 2 (previous page) displays police agencies' level of BWC skepticism, by region and year. The results are directly contrary to what I had hypothesized. The overall trend for all four regions, save the Midwest, is negative, with agencies that adopted BWCs earlier expressing higher levels of skepticism than those that adopted BWCs more recently. The Midwest is the only region that follows the trajectory I had hypothesized, with a higher level of skepticism in 2016 than the other reported years. The South expresses the single highest level of skepticism, peaking at a score of approximately 2.1 (out of 4) in 2004. The Northeast expresses the second highest level of skepticism, with a score slightly above 1.8 in 2010. Level of skepticism in the West remains largely stagnant, with a slight negative trend, as the level of skepticism is mildly higher in 2000 than 2016. Again, these results do not truly indicate a high level of skepticism, as they are all below 3. However, it is noteworthy that, if the results of Figure 1 and 2 are combined, year of implementation jointly predicts a high level of BWC optimism *and* a high level of BWC skepticism, with agencies that adopted BWCs earlier expressing higher levels of optimism and skepticism than those that adopted BWCs more recently.

These results are unexpected, indicating that the predictive factors of an agency's BWC optimism may not be the same as those of an agency's BWC skepticism. While Figure 1 illustrates a clear, negative trend for all four regions regarding year of implementation and level of BWC optimism, Figure 2 suggests that the effects of year of implementation on BWC skepticism are not so straightforward. Other, latent factors must be driving this relationship.

Table 4 (next page) displays the results of the OLS regression, determining factors in police agencies' BWC skepticism. The results are unexpected, providing support for neither Hypothesis 1 nor Hypothesis 2. Both year and region are statistically insignificant factors in predicting an agency's level of skepticism. Instead, agency size is shown to be a highly significant, strong

predictor of an agency's level of BWC skepticism, with larger agencies (both local and sheriff) reporting higher levels of BWC skepticism than smaller ones. The effect of an agency's size on BWC skepticism had not been theorized and thus warrants further exploration. As aforementioned, the results of Table 4 indicate that the factors influencing an agency's level of BWC skepticism are not the same as the factors influencing an agency's level of BWC optimism. Still, the low R² values suggest that these factors do not, on their own, explain the variation in agencies' levels of BWC skepticism. In sum, Table 4 provides support for neither Hypothesis 1 nor Hypothesis 2, and further exploration is required to parse these factors. Specifically, the effects of agency size must be considered in greater depth.

Table 4. Factors in Police Agencies' BWC Skepticism

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
Year	-.024 (.01)		-.022 (.01)		-.022 (.01)
Region		-.028 (.03)		-.027 (.03)	-.019 (.03)
Agency Type			-.042 (.07)	-.050 (.07)	-.044 (.07)
Agency Size			.247*** (.07)	.250*** (.07)	.247*** (.07)
Full-Time			-.000 (.00)	-.000 (.00)	-.000 (.00)
Constant	50.6* (25.6)	1.72*** (.09)	46.5 (25.5)	1.47*** (.14)	44.3 (25.8)
R ²	.005	.001	.022	.019	.023
N	780	780	780	780	780

NOTE: *p ≤ .05, **p ≤ .01, ***p ≤ .001

Source: 2016 LEMAS-BWCS

Conclusion

In conclusion, the results provide limited support for Hypothesis 1 and no support for Hypothesis 2. Explicitly concerning agencies' level of BWC optimism, year of implementation seems to be a consistent indicator, with agencies that adopted BWCs earlier expressing higher levels of optimism than those that adopted BWCs more recently, across all four regions. Less clear are the results regarding agencies' levels of BWC skepticism, with agencies that adopted BWCs earlier seeming to express higher levels of skepticism than those that adopted BWCs more recently, save in the Midwest, where level of BWC skepticism was highest in 2016. In neither case was region found to be a statistically significant indicator of an agency's level of BWC optimism or skepticism. Most unexpectedly, agency size was found to be a statistically significant indicator of an agency's level of BWC skepticism, with larger agencies expressing higher levels of BWC skepticism than smaller ones.

While these results do not explain a high percentage of the variation in agencies' levels of BWC optimism and skepticism and thus cannot be generalized to encapsulate all police agencies' perceptions of BWCs, they further demonstrate how difficult it is to quantify a complex process such as policing in a single survey. More data will be needed to explore these factors in greater depth. In its current form, my study is limited in its explanatory power. Therefore, for future research, I would be interesting in coupling the 2016 LEMAS-BWCS dataset with demographic data on the racial and sex makeup of not only the counties represented in the survey, but the agencies, themselves. Then, I would better equipped to test theories regarding how, for instance, an agency with predominantly white officers that serves a highly diverse community would view BWCs. Would these agencies express higher levels of BWC skepticism, as they view BWCs as a combative technology that will merely exacerbate the already high levels of tension between

officers and the community? How does an agency's perceived level of legitimacy among the public affect its stance on BWCs?

Moreover, quantitative work cannot, on its own, explain policing, as policing contains several nuances that cannot be fully captured by a single survey. Though the 2016 LEMAS-BWCS dataset offers cursory information on when agencies acquired BWCs and how they perceive the technology's utility, it does not allow us to explain *individual* officers' perceptions of or experiences with BWCs. By also engaging in qualitative methods, such as interviews with police officers or content analyses of police records, we can gain a deeper understanding of how police officers—and their agencies—perceive BWCs. How do policing tactics differ among the four regions of the United States? What explains the state of the relationship between a police agency and its community? Will BWCs be able to live up to their intended purpose and provide more transparency and accountability to the people?

Thus, while my study is an imperfect measure of what factors influence an agency's perception of BWCs, it is one of the first to explore the 2016 LEMAS-BWCS dataset and offer some trends on factors that may explain the differences among agencies. Future studies should specifically take into account the size of a police agency and how this may influence perceptions of BWCs. Previous literature had not delved meaningfully into this factor, and given how statistically significant it was in predicting an agency's level of BWC skepticism, it demands further exploration.

Appendix

Optimism Index:

1. BWCs provide reliable evidence of officer-citizen interactions (1 to 4, where “1” is “Strongly Disagree” and 4 is “Strongly Agree”)
2. BWCs have been useful in protecting officers from unwarranted complaints (1 to 4, where “1” is “Strongly Disagree” and 4 is “Strongly Agree”)
3. BWCs have been a useful tool for supervising officers (1 to 4, where “1” is “Strongly Disagree” and 4 is “Strongly Agree”)
4. BWCs have improved professionalism of officers (1 to 4, where “1” is “Strongly Disagree” and 4 is “Strongly Agree”)
5. BWCs have helped identify instances of officer misconduct that might not have been identified without them (1 to 4, where “1” is “Strongly Disagree” and 4 is “Strongly Agree”)
6. BWCs have improved relationships between the agency and the community (1 to 4, where “1” is “Strongly Disagree” and 4 is “Strongly Agree”)

Skepticism Index:

1. Concerns about the security of the information contained in the videos was an obstacle your agency encountered in using camera or the associated video (1 to 2, where “1” is “No” and “2” is “Yes”)
2. Concerns about procedures surrounding storage of the videos was an obstacle your agency encountered in using cameras or the associated video (1 to 2, where “1” is “No” and “2” is “Yes”)
3. Concerns about privacy was an obstacle your agency encountered in using cameras or the associated video (1 to 2, where “1” is “No” and “2” is “Yes”)
4. Concerns about liability was an obstacle your agency encountered in using cameras or the associated video (1 to 2, where “1” is “No” and “2” is “Yes”)
5. Costs were greater than anticipated was an obstacle your agency encountered in using cameras or the associated video (1 to 2, where “1” is “No” and “2” is “Yes”)
6. Lack of public support was an obstacle your agency encountered in using cameras or the associated video (1 to 2, where “1” is “No” and “2” is “Yes”)
7. Lack of officer support was an obstacle your agency encountered in using cameras or the associated video (1 to 2, where “1” is “No” and “2” is “Yes”)
8. Cameras use has not benefited the agency as expected was an obstacle your agency encountered in using cameras or the associated video (1 to 2, where “1” is “No” and “2” is “Yes”)

Variable Coding:

1. **Agency Type:** 1 = Local, 2 = Sheriff
2. **Agency Size:** 1 = Small (less than 50), 2 = Large (more than 50)

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