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Impact of Police Body-Worn Cameras on Complaint Rates: A Comparative Analysis

Shayna Gosney
Tiffin University, United States
GosneySM@tiffin.edu

Hieu Phan
Ph.D., Morningside University, United States
phanj@morningside.edu

ABSTRACT: This comparative analysis case study examined the impact of Body-Worn Cameras (BWCs) on complaints against police officers in three major urban departments: Seattle, Chicago, and New York. Archival complaint data from before, during, and after BWC implementation were analyzed to assess changes in complaint frequency. Descriptive statistics, t-tests, and ANOVA were conducted. Results showed a significant reduction in complaints after the BWC implementation in Chicago and New York, while Seattle experienced a significant increase. ANOVA confirmed that these differences were statistically significant across departments. Findings indicate that local departmental policies and community dynamics have a significant impact on BWC effectiveness. Practical implications underscore the need for tailored implementation approaches, suggesting that further research into the long-term consequences and specific departmental practices is warranted. Through this comparative analysis of these three departments with BWC implementation, the research evaluates changes in complaint frequency, severity, and resolution outcomes. Drawing on data from these three departments, the analysis reveals a significant decline in complaints following the adoption of BWCs, suggesting enhanced accountability and behavioral adjustments among both officers and civilians. However, the effect varies depending on department policies, community engagement strategies, and the extent of camera usage. The findings underscore the potential of BWCs as a tool for enhancing police transparency and trust while also highlighting the need for consistent policy enforcement and a contextual understanding of local perceptions.

KEYWORDS: body-worn cameras (BWCS), police accountability, civilian complaints, police oversight transparency, use of force, public trust, criminal justice reform, policy evaluation, community policing, behavior change, comparative analysis, police-civilian interactions, law enforcement technology, public complaints, surveillance and privacy, evidence-based policing, police misconduct, criminal justice policy

Introduction

Over the last decade, police departments have increasingly adopted body-worn cameras (BWCs) as a key reform strategy to promote greater transparency, accountability, and public confidence in law enforcement. Police departments across the United States are widely using BWCs in efforts to reduce misconduct and false citizen complaints. This study examines whether BWCs reduce complaints against officers by analyzing archival data from three large urban departments: Chicago, Seattle, and New York. Each city provides publicly accessible complaint records from before and after BWC implementation, allowing for cross-jurisdictional and longitudinal comparisons. This study also presents a comparative analysis of complaint rates across these departments, aiming to determine whether these devices lead to measurable changes in officer behavior as reflected in citizen complaints. An analysis of complaint data from these three departments reveals that there are departmental policies and community efforts aimed at substantiating the effectiveness of body-worn cameras in achieving their intended purposes and outcomes.

Advocates argue that BWCs promote accountability, improve interactions, and lower citizen complaints. However, existing research yields mixed findings, often limited by short timelines or data from a single agency. These gaps leave policymakers and communities uncertain about whether BWCs deliver on their promises. This study conducts a thorough evaluation of whether body-worn cameras are associated with a measurable reduction in citizen complaints by analyzing trends across three departments and considering key contextual variables that may affect their impact. By focusing on longer-term trends across multiple agencies with consistent body-worn camera policies, the research provides a more comprehensive picture of the impact of body-worn cameras on complaint rates. The goal is to generate more reliable evidence concerning the relationship between BWC adoption and patterns in citizen complaints. The findings from this study aim to inform ongoing policy discussions and provide law enforcement agencies, policymakers, and community stakeholders with a stronger empirical basis for evaluating the long-term effectiveness of body-worn cameras.

Literature Review

Capturing the Truth: The Impact of Body-Worn Cameras

The implementation of BWCs has been widely studied, yet the results of their effectiveness remain varied across jurisdictions and research methods. Some research suggests that BWC implementation yields clear positive outcomes. For example, Gaub et al. (2016) found that officers strongly supported BWCs, resulting in fewer confrontational encounters and reduced perceptions of complaints. Similar positive findings were reported by Hedberg, Katz, and Choate

(2017), who demonstrated a clear relationship between higher BWC compliance and a reduction in incidents of citizen resistance and complaints. Ariel, Farrar, and Sutherland (2015) also found dramatic reductions in complaints and use-of-force incidents in their randomized controlled trial in Rialto, California, attributing these reductions to the deterrent effects of visible cameras. Farrar (2013) supported these results, noting a significant decrease in use-of-force incidents due to increased officer self-awareness and accountability when BWCs were employed.

Conversely, several studies have reported limited or inconsistent effectiveness. Lum et al. (2019) conducted a comprehensive review, finding mixed results that suggest effectiveness may vary significantly based on departmental culture, policies, and community characteristics. Yokum, Ravishankar, and Coppock (2019) found limited changes in officer behavior or complaint rates within the Washington, D.C., Police Department, suggesting that body-worn cameras alone may not be sufficient to alter behaviors in large urban departments substantially. White (2014) similarly concluded, based on a broader review, that BWC effectiveness varied significantly by jurisdiction, mainly driven by local implementation practices and departmental culture.

Legal and Ethical Considerations of Recording in the Field

Privacy concerns and operational apprehensions further complicate the adoption and effectiveness of BWCs. Jennings, Fridell, and Lynch (2014) found that although officers were positive about the potential benefits of BWCs, concerns about privacy and increased scrutiny affected their acceptance and use of the cameras. These findings were reinforced by Poirier, Charbonneau, and Boivin (2023), who identified a notable gap between citizens' support for BWCs due to increased accountability and officers' apprehensions about intrusive scrutiny. Nimishakavi (2017) and Schwencke (2017) emphasized the potential role of BWCs in standardizing and improving the transparency of complaint data, suggesting that BWCs could significantly enhance departmental accountability practices and data quality.

Other studies have explicitly tested the procedural impacts of BWCs. Owens and Finn (2018) demonstrated significant reductions in complaints following the implementation of BWC in a randomized controlled trial in London, linking these reductions directly to procedural transparency. Braga et al. (2018) reinforced these findings in their study in Las Vegas, observing substantial decreases in both complaints and use-of-force incidents. These studies collectively emphasize the importance of procedural transparency and the consistent use of BWCs as essential factors influencing their effectiveness. Taken together, existing studies illustrate both the potential benefits and limitations of BWCs. They underscore the necessity of clear, consistent policies, officer buy-in, and careful consideration of privacy concerns. However, the varying results indicate a critical need for

comparative, multi-jurisdictional research to assess and generalize the overall impact of BWCs accurately.

Internal Dynamics and Departmental Practice

While body-worn cameras (BWCs) are often introduced as standardized reforms, their effectiveness is shaped by internal departmental factors that vary widely between jurisdictions. Research has shown that officer discretion in activating body-worn cameras, inconsistent policy enforcement, and a lack of supervisory oversight can undermine the intended outcomes of body-worn camera programs. White and Malm (2020) argue that successful implementation depends less on the presence of cameras and more on how departments structure their policies, train officers, and hold personnel accountable. When officers retain broad discretion over activation or face minimal consequences for non-compliance, the deterrent effect of BWCs weakens. Departments that clearly define usage protocols and actively monitor compliance tend to observe stronger outcomes in both officer behavior and citizen interactions. These findings offer a valuable lens through which to examine variations in BWC effectiveness across agencies.

Public Perceptions, Trust, and Community Context

Community support for BWCs is often viewed as a key factor in their adoption, but public perceptions of their impact vary significantly. Thompson, Peterson, and Lawrence (2020) found that while many individuals associate BWCs with increased transparency and procedural justice, trust in their effectiveness depends on prior experience with law enforcement and broader perceptions of legitimacy. In communities with deep-seated mistrust of police, BWCs may be seen as symbolic gestures unless paired with meaningful accountability measures. The degree to which BWCs influence complaint behavior may, therefore, reflect not only officer conduct but also public confidence in oversight systems. These differences in perception underscore how community context influences both the actual and perceived value of BWC programs.

Allegation to Adjudication

Against the backdrop of such social and racial justice movements, there has been a consistently rising interest in the establishment of accountability processes for law enforcement, predicated on the belief of citizen activists that the police are insufficiently accountable and biased against minorities. Attempts to establish greater accountability have ranged from the social (e.g., protests) to the political (e.g., the establishment of citizen boards) to the tactical (e.g., the use of technology to assess the nature of controversial police-citizen interactions objectively). The benefits of BWC technology as a tool to improve outcomes, especially addressing race-based disparities in the adjudication of investigative outcomes, should be

considered with this limitation in mind. Moreover, even in a citizen interaction in which footage is available, the video captured may not include potentially pertinent information for an effective investigation.

According to Sahin (2014) and Weitzer & Tuch (2004), technology, in particular, has been viewed as a potential game-changer, especially in instances where parties differ on what transpired during a given encounter and where there is a need to reconcile conflicting perceptions of a particular event. Receiving the most attention has been the use of BWCs by law enforcement agencies. Some view these devices as a panacea for the proper adjudication of police/citizen conflicts. BWCs are assumed to provide objective information about encounters between police and citizens that result in a negative outcome and where accounts of the event differ between the police and citizens (Ariel et al., 2016, 2018; Braga et al., 2017).

Identified Gaps

Although existing research provides valuable insights, notable gaps persist. Studies typically examine single departments over short periods, which limits their generalizability. Conflicting outcomes further emphasize the need for comparative research involving multiple jurisdictions. Additionally, few studies specifically evaluate complaint patterns over more extended periods following the adoption of BWCs. This study directly addresses these gaps by comparing data from three large urban departments—Chicago, Seattle, and New York—and examining complaint trends before and after BWCs became standard practice. By providing a comparative, multi-city analysis over an extended timeframe, this research offers more reliable evidence regarding the effectiveness of BWCs.

Empirical Questions

Based on the identified literature gaps, this study addresses these empirical questions:

1. Does consistent BWC use significantly reduce the number of complaints against officers?
2. How does the frequency of complaints change following BWC implementation in large urban police departments?
3. Do changes in complaint rates remain consistent across extended periods following BWC implementation?
4. Does BWC effectiveness in reducing complaints vary across different police departments?
5. Are these changes consistent or variable across different jurisdictions?

Data Analysis

Sampling/Demographic

This study employs an archival, quantitative pre-post research design. The design involves analyzing official complaint data from three large urban police departments—Chicago, Seattle, and New York—before and after Body-Worn Cameras (BWCs) were consistently implemented. The pre-post structure enables clear identification of changes attributable directly to the BWC implementation.

Table 1. Civilian/Public Complaints

Department	Pre-BWC Complaints (O1)	Pilot Phase Complaints (O2)	Full Implementation Complaints (O3)
Chicago	Complaints recorded	Complaints recorded	Complaints recorded
Seattle	Complaints recorded	Complaints recorded	Complaints recorded
New York	Complaints recorded	Complaints recorded	Complaints recorded

Table 2. Average Monthly Complaints by Department and Implementation Period

Department	Pre-BWC	Pilot Phase	Full Implementation
Seattle	5	1	13
Chicago	68	8	36
New York	329	42	69

Methodology

Data Analysis Procedures

This comparative analysis forms the basis for examining archival records from the Chicago, Seattle, and New York police departments. These departments were selected based on their established BWC programs, consistent policies regarding camera use, and the availability of detailed complaint records spanning several years before and after the adoption of BWC. These three departments represent diverse urban settings, enhancing the generalizability of findings. Official complaint records were gathered from publicly accessible databases maintained by each department. Additionally, departmental BWC policy documents were reviewed to confirm the consistency of camera deployment procedures across the three jurisdictions. Data were compiled and analyzed using Microsoft Excel, allowing effective organization, coding, and statistical analysis.

Complaint data were collected for three clearly defined periods: a baseline period before BWC implementation, a pilot phase during initial BWC deployment, and a follow-up period after BWCs became standard practice. Data were organized chronologically into these categories to facilitate comparisons across periods. Specific attention was given to ensuring comparability across departments by aligning timeframes precisely and verifying consistency in complaint reporting practices.

Scoring and Data Management

Complaint records were organized and standardized explicitly by the date received. Dates were standardized across departments to ensure accurate comparisons. Data were sorted clearly into three defined timeframes (pre-BWC, pilot, and full implementation) to facilitate meaningful comparisons.

Statistical Analysis

Descriptive statistics, t-tests, and ANOVA analyses were conducted using Excel. Descriptive statistics summarized basic trends and distributions of complaint data. T-tests were used to evaluate differences in complaint frequency before and after BWC implementation within each department. ANOVA was used to determine whether the observed differences in complaint trends across departments were statistically significant. These methods directly address the empirical questions by clearly identifying and quantifying changes associated with adopting BWCs.

Results

Descriptive Statistics

The descriptive statistics summarize changes in complaints within each police department before, during, and after the implementation of body-worn cameras (BWCs). Seattle experienced an increase in complaints, from an average of approximately five complaints per month before the BWC to around 13 complaints per month following full implementation. In contrast, Chicago experienced a substantial decrease, from approximately 68 complaints per month before the BWC to 36 complaints per month after full implementation. New York showed a similarly significant reduction, decreasing from an average of approximately 329 complaints per month before the BWC to about 69 complaints per month after implementation. These patterns are clearly depicted in Figure 1 below.

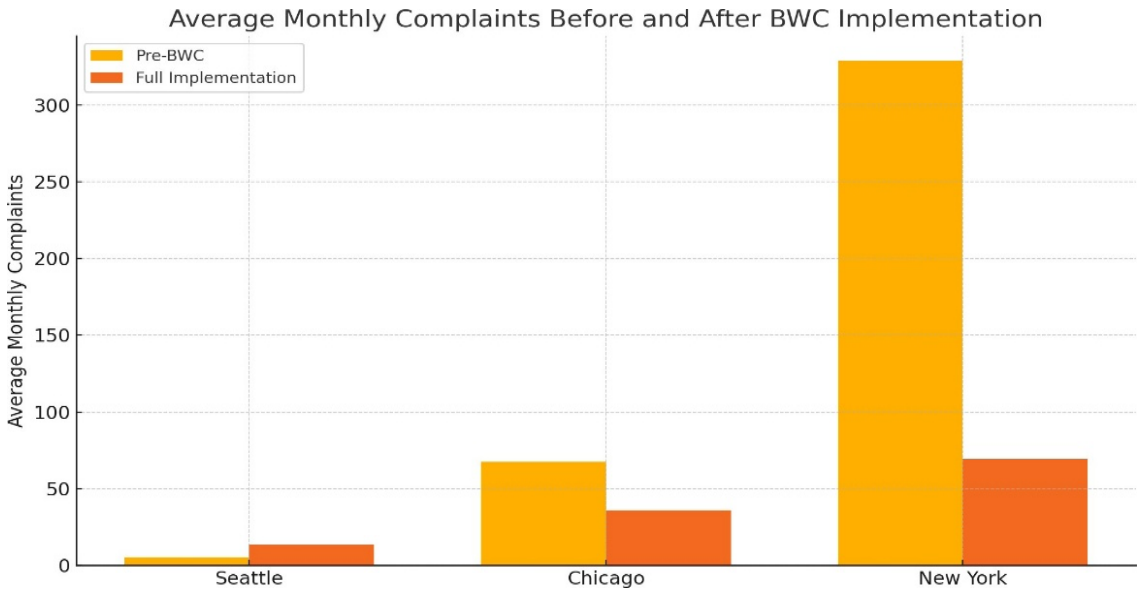

Figure 1. Average monthly complaints against police officers in Seattle, Chicago, and New York before and after full implementation of body-worn cameras (BWCs). Seattle showed an increase, while Chicago and New York demonstrated significant decreases after BWCs became standard practice.

T-Test Results

T-tests were used to evaluate whether the observed changes were statistically significant within each department. Seattle's increase in monthly complaints after implementing BWCs was significant ($t = -5.98$, $p < .0001$). Conversely, Chicago ($t = 4.77$, $p < .0001$) and New York ($t = 15.97$, $p < .0001$) both exhibited statistically significant reductions in monthly complaint rates after BWC adoption. These statistically significant findings are summarized visually in Figure 2.

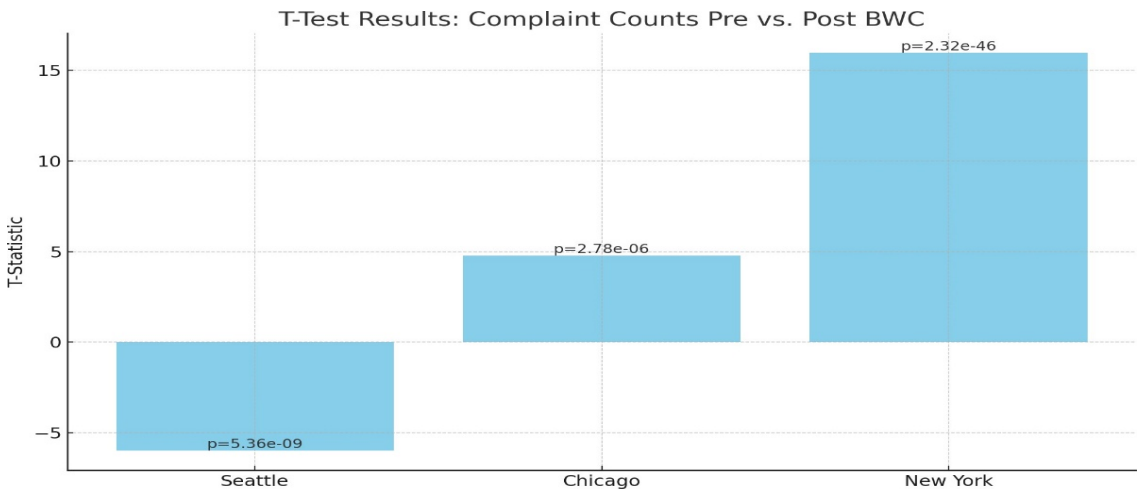

Figure 2. T-test results illustrating the statistical significance of changes in complaint frequency after BWC implementation. Seattle experienced a statistically significant increase, while Chicago and New York showed statistically significant reductions (all p-values < .001).

ANOVA Results

ANOVA analyses compared changes in complaint rates across Seattle, Chicago, and New York. The comparative analysis confirmed statistically significant differences between these cities ($F = 18.67$, $p < .0001$). This result indicates that BWC's effectiveness in reducing complaints varied significantly across different police departments, clearly suggesting the importance of local departmental factors in shaping outcomes. Figure 3 below illustrates these comparative differences.

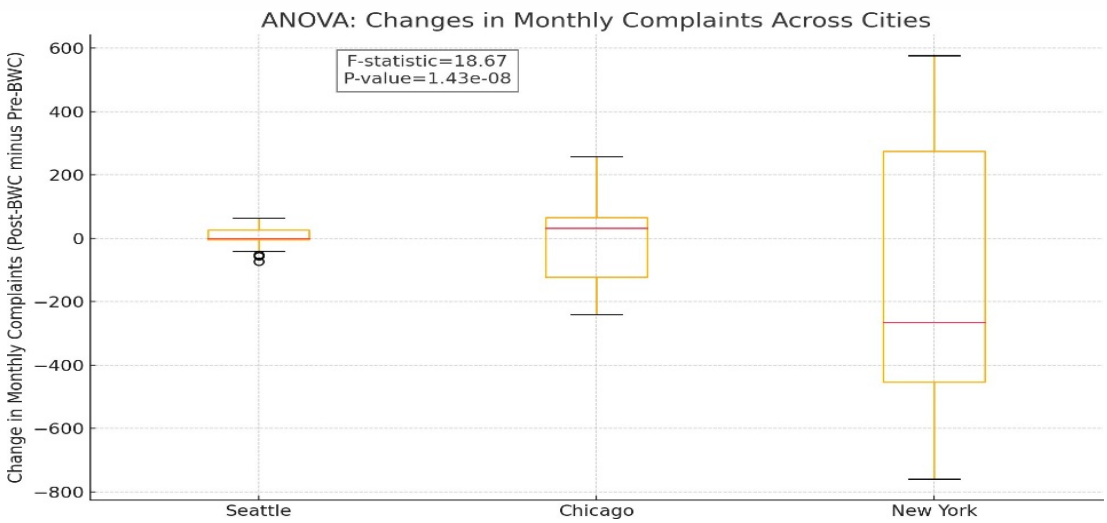

Figure 3. ANOVA results comparing the change in monthly complaints across Seattle, Chicago, and New York following BWC implementation. Differences between the cities were statistically significant ($F = 18.67$, $p < .0001$), suggesting variations in BWC effectiveness between departments.

Discussion

Interpretation of Findings

The findings from this study highlight important differences in how BWCs affect complaints against officers in various jurisdictions. The substantial decrease in complaints observed in Chicago and New York aligns with prior research indicating that BWCs can effectively reduce citizen complaints (Ariel, Farrar, & Sutherland, 2015; Braga et al., 2018; Owens & Finn, 2018). The increased transparency and accountability of officers likely contributed to improved police-citizen interactions and a reduction in misconduct allegations. Conversely, Seattle's increase in complaints post-BWC implementation was unexpected. This outcome suggests that BWCs also increase citizens' willingness to report concerns, possibly due to improved trust in departmental transparency or increased access to evidence.

Connection to Existing Literature

The variation in complaint outcomes observed in this study—substantial reductions in Chicago and New York and an increase in Seattle—mirrors the broader inconsistencies reported in prior BWC research. Lum et al. (2019) and White (2014) have both noted that the effectiveness of BWCs depends heavily on the departmental context, officer behavior, and public engagement. White and Malm (2020) expand on this by arguing that without clear activation protocols, consistent supervisory enforcement, and strong leadership support, BWCs may be unevenly implemented or selectively used. These organizational weaknesses may explain why Seattle's complaint rates rose despite a formal BWC policy. Community-level dynamics also appear relevant. Thompson et al. (2020) found that public trust in BWCs varies significantly by community, with marginalized populations often viewing BWCs as symbolic rather than substantive. If public trust in law enforcement was already strained in Seattle, increased reporting might reflect heightened public scrutiny rather than an increase in officer misconduct. Taken together, these findings suggest that BWC outcomes are shaped not just by the presence of policy but by the local organizational and social environment. This study contributes to the growing body of literature by directly comparing complaint trends across multiple departments and linking those trends to both internal practices and community contexts.

Implications

This study offers clear and practical implications for police departments and policymakers. BWCs can be practical tools for reducing complaints, as demonstrated in Chicago and New York. However, Seattle's experience shows that simply adopting BWCs does not guarantee a reduction in complaints. Departments should consider how local factors, policies, and community relations can influence the success of BWC programs. Effective training, clear implementation guidelines, and continuous monitoring are essential for achieving positive outcomes.

Limitations and Future Research

Several limitations exist in this study. First, reliance on archival data limits control over reporting accuracy or consistency across departments. Second, variations in departmental policies unrelated to BWCs were not explicitly controlled. Additionally, major societal and cultural events during the reporting period, particularly the 2020 George Floyd protests and subsequent Black Lives Matter movements, were not explicitly controlled for in this analysis. These events very likely had a substantial impact on complaint patterns, as reflected clearly in Seattle's complaint data, where a pronounced increase occurred during this period. Future research should examine how specific departmental policies, officer attitudes, and

community relationships influence BWC effectiveness. Longitudinal studies exploring sustained effects over several years would further strengthen understanding of BWC impacts on policing outcomes.

Conclusion and Future Scope

This comparative analysis study examined the effects of body-worn cameras (BWCs) on complaint rates against officers in Seattle, Chicago, and New York. Findings indicated significant variations in BWC effectiveness across jurisdictions. While complaints substantially decreased in Chicago and New York after implementing BWCs, Seattle saw a notable increase, likely influenced by major societal events such as the 2020 protests. These contrasting outcomes underscore that local factors, departmental policies, and community contexts play a significant role in determining the effectiveness of BWCs. Departments should carefully consider these factors to maximize the benefits of BWCs, as effectiveness depends on how policies are enforced and understood by both officers and the public. These findings underscore the need for BWC policies to be clear, enforced, and locally responsive. Future research addressing long-term impacts and detailed policy comparisons will further clarify how BWCs can most effectively improve policing outcomes.

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