



When No One Is Watching

Evaluating the Impact of Body-Worn Cameras on Use of Force Incidents

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Description of the Problem

BWC Research

- There has been an explosion of research on Body-Worn Cameras (BWCs) in the last several years (Lum et al, 2015)
- Main focuses of research are the effects of BWCs on complaints against officers, officer use of force, and public/police perceptions of BWCs

Contradictory Findings of BWC Studies

- Much of the research shows positive effects of BWCs, such as dramatic reductions of complaints and use of force (Ariel et al, 2015; MPD 2013; Goodall, 2007)
- However, there are contradictory findings as well, with Ariel et al (2016) finding an *increase* in assaults on officers and no effect on officer use of force.

Effects of a Research Site on BWC Studies

- We suggest that these contradictory findings can be attributed to the majority of BWC research concentrating on research sites, where BWCs are implemented as part of an RCT.
- This can bias the findings due to the Hawthorne Effect, where observed units change their behavior due to the knowledge that they are being observed.
- We therefore focus our research on a department that has fully implemented BWCs without the presence of a researcher or external pressures to adopt BWCs.

Literature Review

- BWC Research

- Predominately implemented and studied due to potential to increase police legitimacy and accountability (Lum et al, 2015; White, 2014)
- None of the 37 published works on BWC study specific effects on legitimacy.
- Many studies have shown promising findings in the reduction of complaints and police use of force (Ariel et al, 2015; MPD, 2013; Laur et al, 2010; Goodall, 2007).
- Recently, Ariel et al (2016) have found increases of assaults on officers wearing BWCs and no effect on officer use of force.

- Use of Force

- Fill in with UoF lit

Literature Review

- Contagious Accountability and the Hawthorne Effect
 - “Contagious Accountability”
 - Ariel and colleagues (2017) have suggested that BWCs reduce complaints against officers and use of force for both experimental and control groups through *contagious accountability*, where officers change their behavior due to the BWC’s deterrent effect, and this behavior change permeates the culture of the department.
- SUTVA assumption violation and the Hawthorne Effect
 - We suggest that the use of shifts as a unit of analysis (done by Ariel et al and other RCTs) violates the SUTVA assumption, leading to similarities of outcomes in both the control and experimental groups.
 - We also suggest that the behavior change found by most studies may be attributed in some part to the Hawthorne effect
 - Few BWC studies have examined the effects of BWCs over the long-term, after the RCT has concluded

Research Question and Hypotheses

- Exploratory
- What are the long-term effects of BWCs on complaints against officers and officer use of force in a department that is a non-research site?
- Prior literature would suggest the following hypotheses:
 - BWCs will reduce complaints against officers over time due to *contagious accountability*.
 - BWCs will reduce officer use of force over time due to *contagious accountability*.

Methodology

Use of Force

- Data collected from a small municipal police department (fewer than 100 officers) in the Pacific Northwest
- Department policy requires that a use of force report is filed any time an officer uses force to subdue or restrain a suspect
- Use of force reports obtained from January 2009 through May 2016
- N=475
- An interrupted time series analysis (ITSA) was used to determine immediate and long-term effects of BWCs on use of force

Complaints

- Complaint data supplied from the same department
- Redacted complaints obtained from January 2009 through September 2016
- N=99
- Not enough data to sufficiently test hypothesis

Descriptives

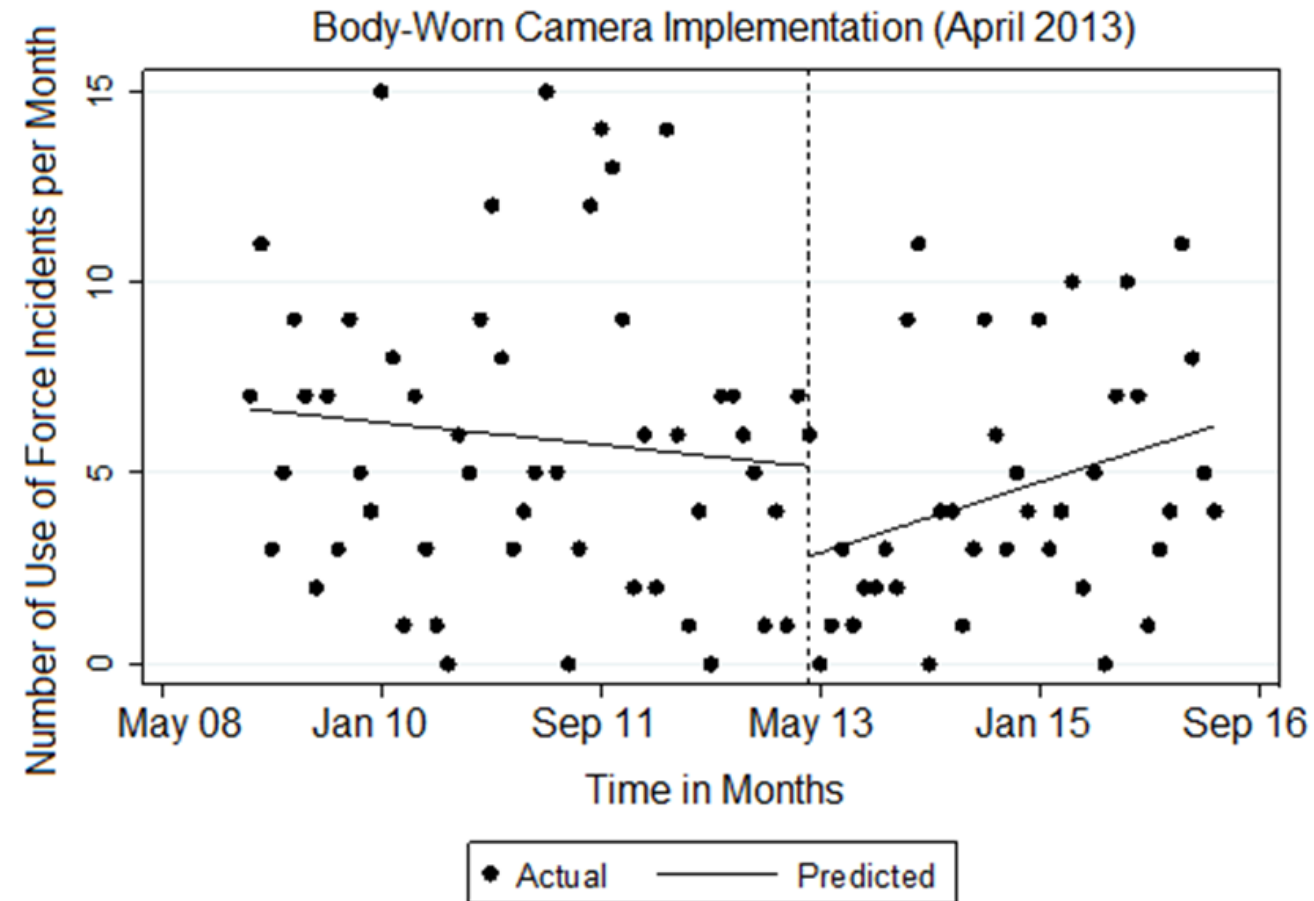
	Pre-BWC Implementation		Post-BWC Implementation	
	F	\bar{X}	F	\bar{X}
Use of Force	303	5.94	172	4.53
Complaints	52	1.02	47	1.12

Table 1. Use of Force and Complaints Data, Pre- and Post-BWC Implementation

ITSA of Use of Force

Use of Force Incidents per Month	Coefficient	Sd. Err.	t	95% Confidence Interval	
Constant	6.70	0.84	7.96***	5.03	8.38
Pre-implementation	-0.03	0.03	-0.97	-0.09	0.03
Effect of BWCs, April 2013	-2.36	1.43	-1.65	-5.20	0.48
Post-implementation effect of BWCs	0.12	0.05	2.40*	0.02	0.22

†p<.1, *p<.05, **p<.01, ***p<.001



Findings

- The month of full BWC implementation, April 2013, led to decrease in approximately 2.36 use of force incidents, though this effect is also not significant.
- The months following BWC implementation, however, do show a significant ($p = 0.019$, CI = .02, .22) increase of use of force incidents per month for each month following April 2013, at a rate of roughly one more use of force incident for every 8 months, as compared to the pre-implementation months.
- The ITSA visual output suggests that use of force incidents returned back to pre-BWC baseline over the course of three years.

Discussion

- Our findings suggest that the deterrent effect of BWCs (through the cameras' monitoring of officers' and suspects' behavior) does not have lasting effects, thus revealing little support for the “contagious accountability” framework.
- The purpose of this research is not to discredit theoretical attempts to explain the mechanism behind the effects of BWCs on commonly studied outcomes, but to call attention to the need for further BWC research that includes a variety of police departments and contexts.
 - Department size
 - Whether or not the department is the subject of an RCT
 - Reasons why the department adopted BWCs

Limitations

- Generalizability
 - The present study is not widely generalizable due to the specific context surrounding the studied department
 - However, the purpose of the present study is to focus on the importance of contextual differences and potential observer biases in current BWC research
 - Police departments considering adopting BWCs should consider context over broad findings of large-scale RCTs
- Reporting
 - As with any agency or governmental data source, there is the potential of underreporting
 - However, ...?

Conclusion