



# What are the impacts of body-worn cameras (BWCs) on officer and citizen behaviors?

---

CYNTHIA LUM

George Mason University  
Center for Evidence-Based Crime Policy  
Department of Criminology, Law and Society



## Body-worn cameras' effects on police officers and citizen behavior: A systematic review

Cynthia Lum<sup>1</sup> | Christopher S. Koper<sup>1</sup> | David B. Wilson<sup>1</sup> | Megan Stoltz<sup>1</sup> | Michael Goodier<sup>1</sup> | Elizabeth Eggers<sup>2</sup> | Angela Higginson<sup>3</sup> | Lorraine Mazerolle<sup>2</sup>

<sup>1</sup>George Mason University, Fairfax, Virginia

<sup>2</sup>University of Queensland, Brisbane, Australia

<sup>3</sup>Queensland University of Technology, Brisbane, Australia

### Correspondence

Cynthia Lum, Department of Criminology, Law and Society, Center for Evidence-Based Crime Policy, George Mason University, 4400 University Drive, MS 6D12, Fairfax, VA 22030.  
Email: clum@gmu.edu

### Funding information

The Laura and John Arnold Foundation

## 1 | PLAIN LANGUAGE SUMMARY

### 1.1 | Body-worn cameras (BWCs) do not have clear or consistent effects on most officer or citizen behaviors, but different practices need further evaluation

Law enforcement agencies have rapidly adopted BWCs in the last decade with the hope that they might improve police conduct, accountability, and transparency, especially regarding use of force.

Overall, there remains substantial uncertainty about whether BWCs can reduce officer use of force, but the variation in effects suggests there may be conditions in which BWC could be effective. BWCs also do not seem to affect other police and citizen behaviors in a consistent manner, including officers' self-initiated activities or arrest behaviors, dispatched calls for service, or assaults and resistance against police officers. BWCs can reduce the number of citizen complaints against police officers, but it is unclear whether this finding signals an improvement in the quality of police-citizen interactions or a change in reporting.

Research has not directly addressed whether BWCs can strengthen police accountability systems or police-citizen relationships.

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2020 The Authors. Campbell Systematic Reviews published by John Wiley & Sons Ltd on behalf of The Campbell Collaboration

### What is the aim of this review?

This Campbell systematic summarizes the evidence from 30 studies of the effects of BWCs on several officer and citizen behaviors. The majority of studies are from the United States.

### 1.2 | What is this review about?

The last decade has been marked by the rapid adoption of BWCs by the police and a growing body of evaluation research on the technology's effects. Spurred on by high profile officer-involved shooting incidents and protests, many citizens and community groups have supported the adoption of BWCs, hoping that this technology will deter police misconduct, better capture use-of-force events, and increase police accountability and transparency.

At the same time, some police officers and community members have expressed concerns that BWCs might discourage citizens from reporting crimes or cause officers to pull back on preventative or proactive activities that may help prevent offending. This Campbell



## "Body-worn cameras' effects on police officers and citizen behavior: A Systematic review"

### Team Members:

Cynthia Lum, Christopher S. Koper, David B. Wilson, Megan Stoltz, Michael Goodier, Elizabeth Eggers, Angela Higginson, & Lorraine Mazerolle

A close-up photograph of a police officer's dark blue uniform. On the left, a black Motorola radio is clipped to the lapel. In the center, a black L3 body-worn camera is attached. On the right, a silver police badge is pinned, featuring the text 'POLICE', 'CITY OF NORTH CHARLESTON', 'PERSEVERANCE PROGRESS PROSPERITY', 'FOUNDED JUNE 18 1972', 'SOUTH CAROLINA', and 'PATROLMAN'.

# BWC Adoption and Expectations

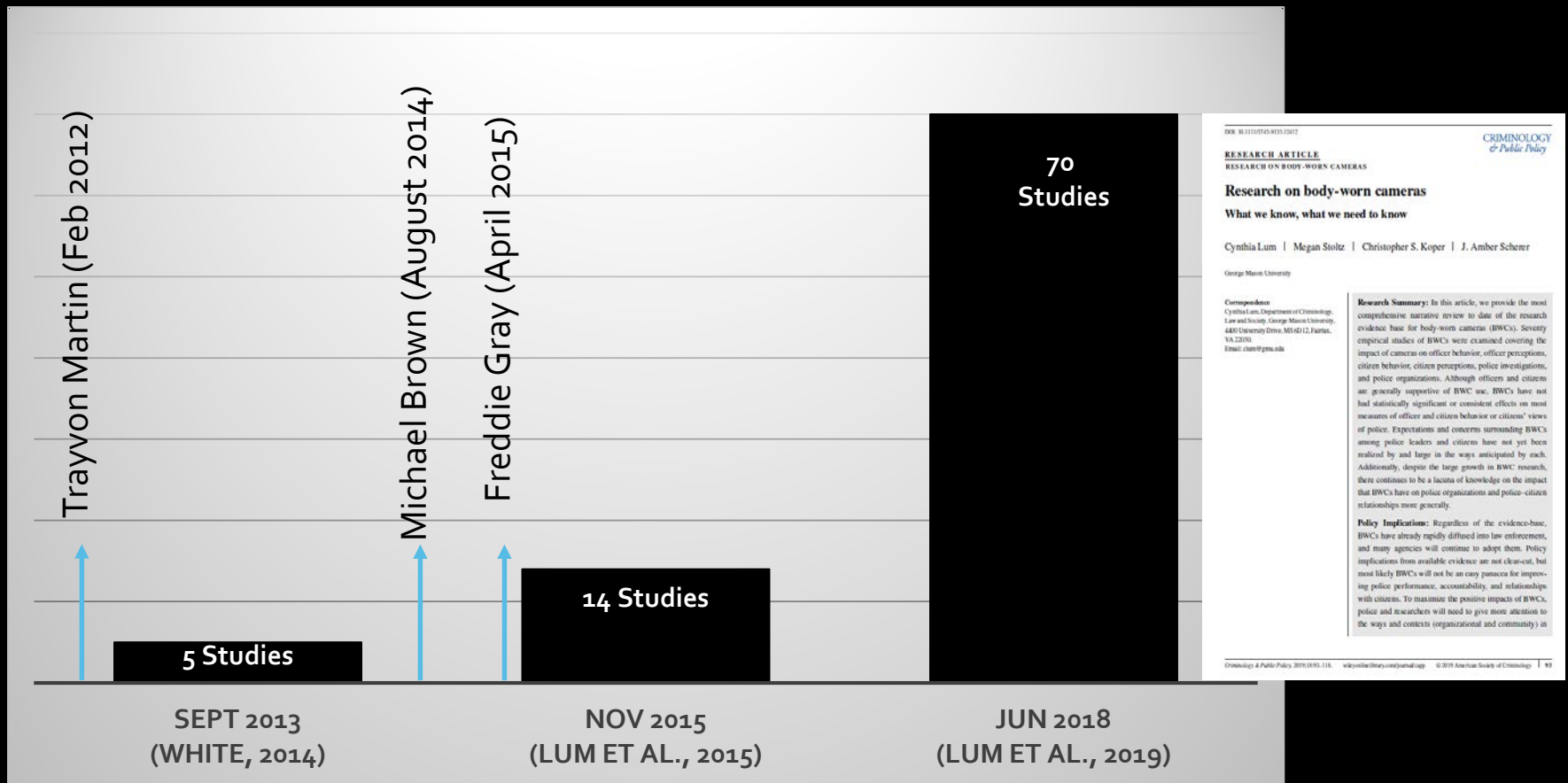


# Questions about BWCs

- Can BWCs reduce use of force?
- Can BWCs improve police-citizen relationships?
- Can BWCs reduce criminal justice disparity?
- Can BWCs increase police accountability?
- Will BWCs make officers more legalistic?
- Will BWCs cause officers to be less proactive?
- Will BWCs make people reluctant to report crime?
- Will BWCs reduce citizen willingness to cooperate?
- Will BWCs increase citizen compliance to police?
- Will BWCs reduce assaults against police officers?
- Do citizens support BWCs? What about officers? Variations?



# There has been an exponential growth of empirical BWC research



# Impacts on Officer and Citizen Behaviors

---

- **Officer behavior**

- Complaints against officers
- Officer Use of Force
- Arrest and Citation Behavior
- Proactive activities (traffic stops, SQF, other proactive activities)
- Incident reports written
- Response time, time spent on scene

- **Citizen behavior**

- Dispatched calls for service
- Assaults on officers/officer injuries
- Resistance against officers

# 30 Studies Analyzed

## 116 Effects\* Calculated

---

1. Randomized controlled experiment OR quasi- experiment with a valid comparison condition.
2. Non-experimental time series if have at least 24 months OR 50 time points pre-treatment (rule relaxed if comparison included)
3. BWC use by law enforcement only (not by courts)
4. Officer or citizen BEHAVIOR (not attitudes)

\*Relative Incident Rate Ratio (RIRR) effect sizes calculated

# Data Collected from each Study

---

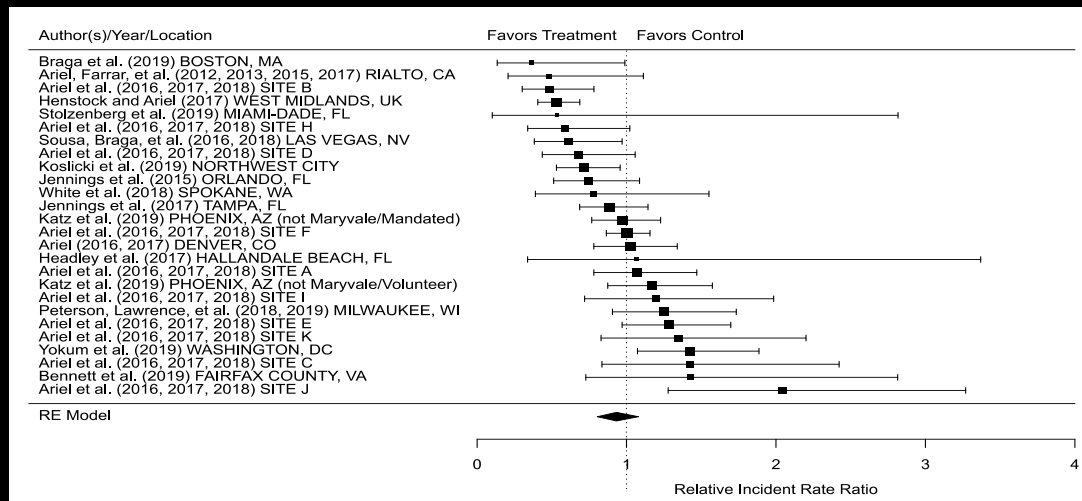
- **BWC implementation**  
*where, when, how, why, who*
- **Research design features**  
*design type, sample, units of allocation and analysis, power analysis*
- **Risks of Bias**  
*sample selection, randomization process, attrition, contamination, missingness, outcome measurement, reporting*
- **Moderators of interest**  
*Study design, unit of analysis, agency context, adoption year, discretion in BWC use, contamination, fidelity, researcher group*
- **Outcomes and effects for each outcome**



# Results

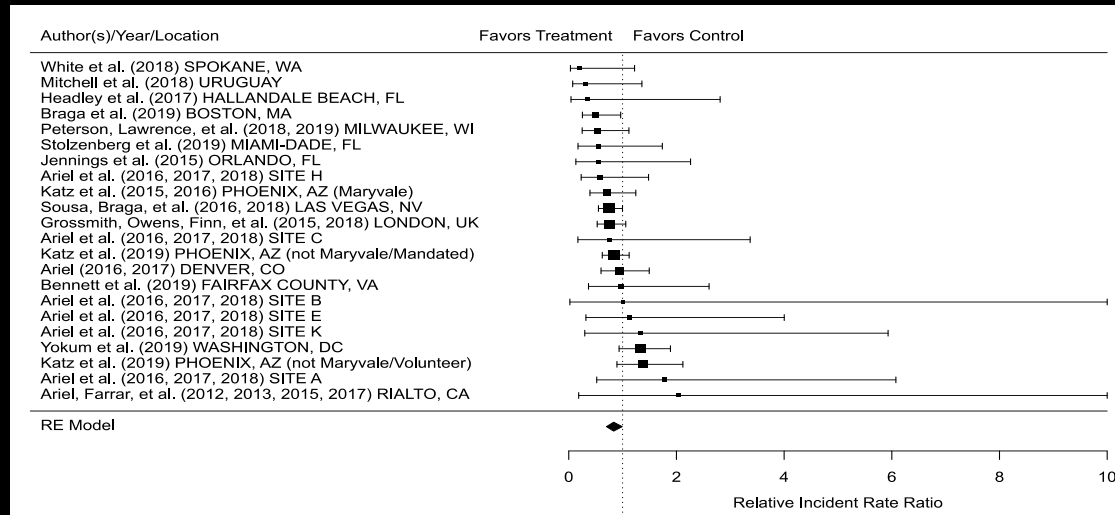


“BWCs do not have consistent or clear effects on officer use of force. However...”



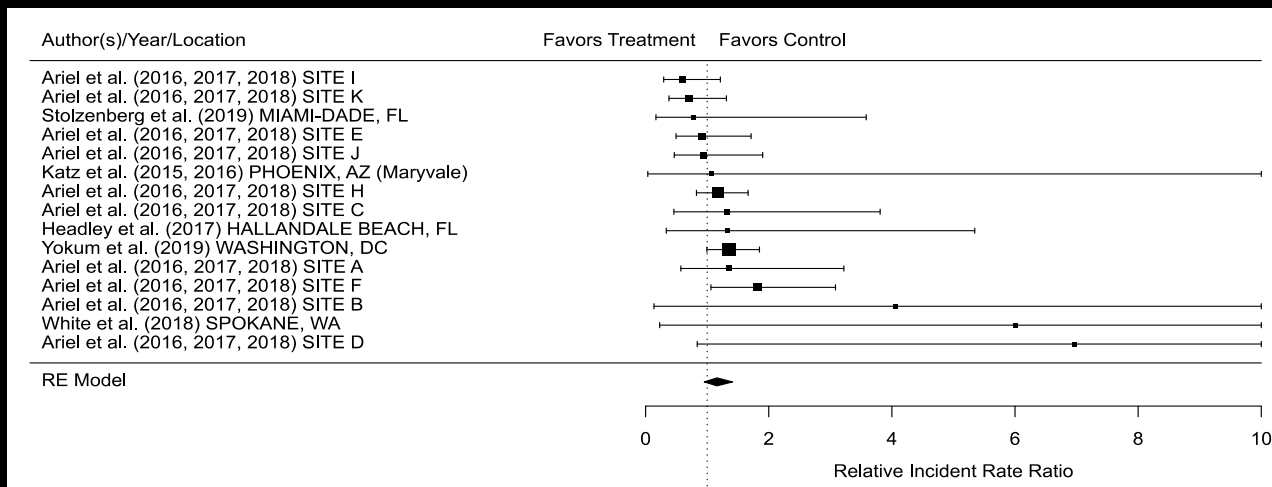
26 studies measured this effect.  
 RIRR=.932, NOT SIGNIFICANT, heterogeneous distribution

“BWCs can reduce complaints against officers, but it isn’t clear why.”



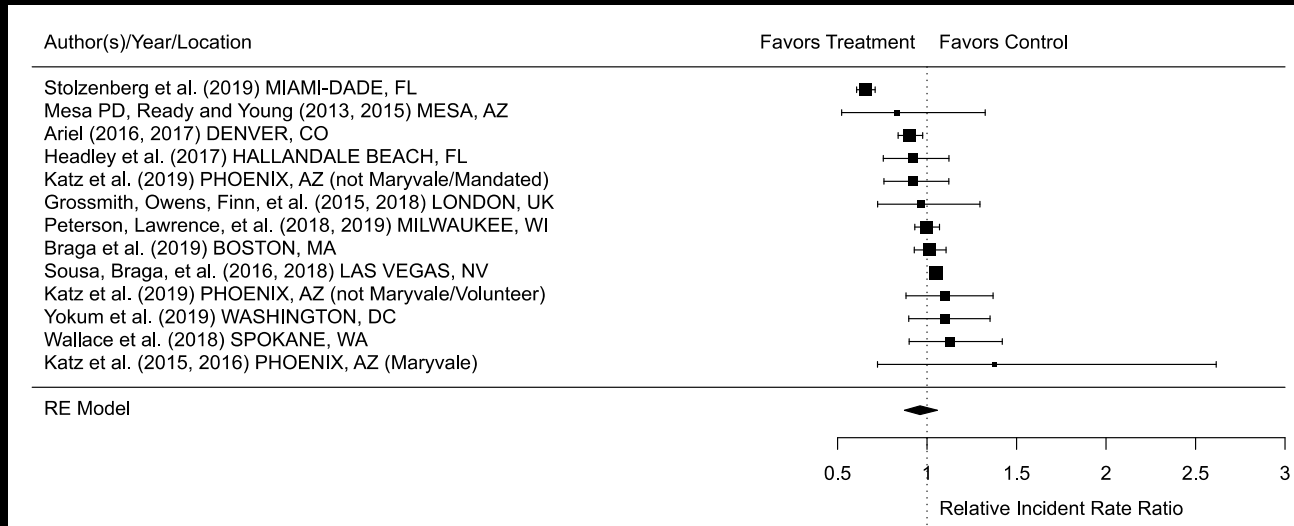
22 studies measured this effect.  
RIRR=.834, SIGNIFICANT: 16.6% relative reduction

“We are uncertain whether BWCs increase or decrease assaults, resistance, or injuries against officers.”



15 studies measured this effect.  
RIRR=1.148, NOT SIGNIFICANT, heterogeneous distribution

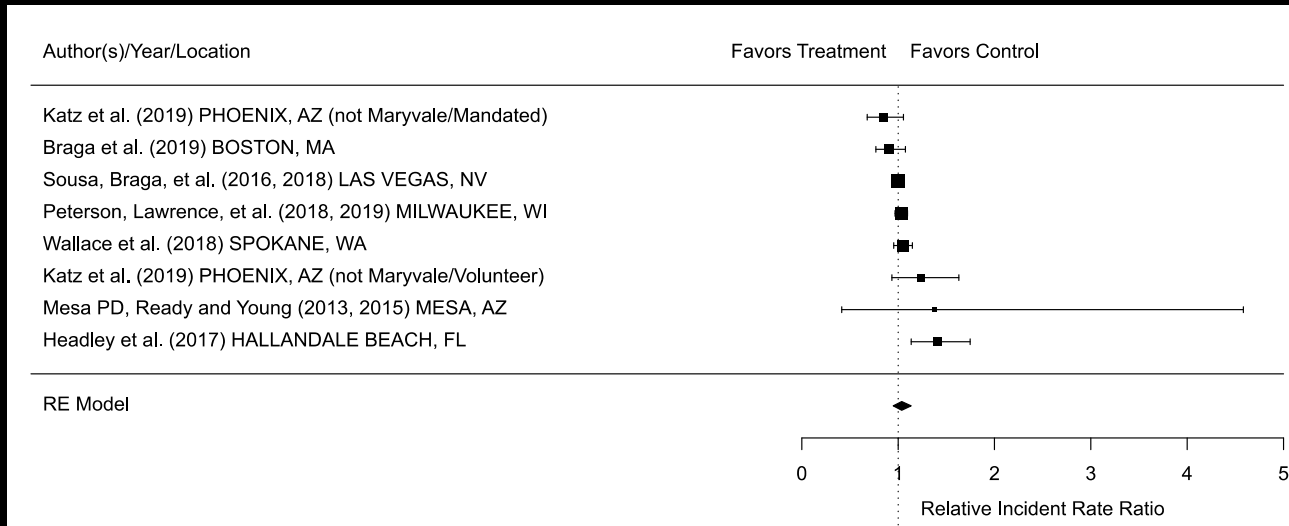
“It does not appear that BWCs make officers more legalistic and increase their use of arrest.”



13 studies measured this effect.  
RIRR=.961, NOT SIGNIFICANT, heterogeneous distribution



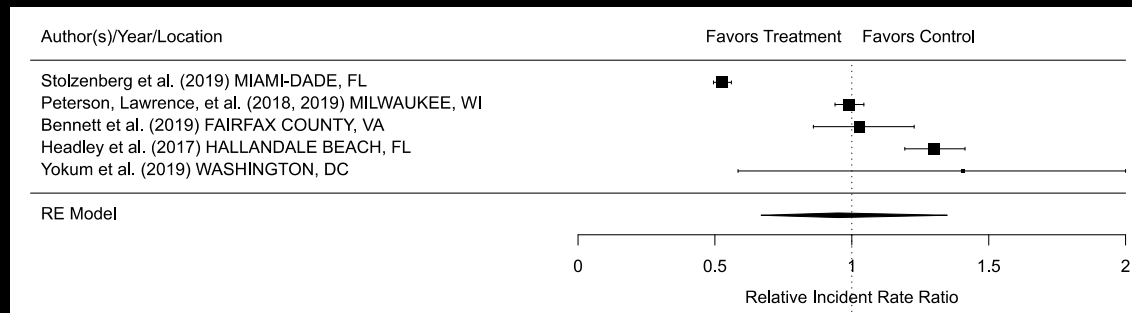
“BWCs do not appear to cause a Ferguson Effect, or a pull back on general proactive behaviors.”



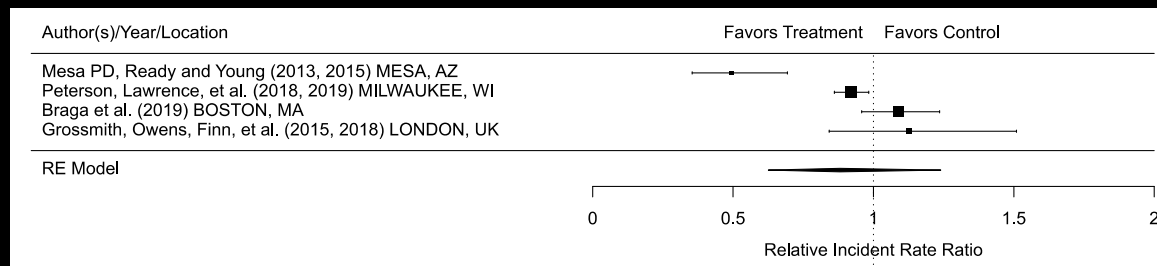
8 studies measured this effect.

RIRR=1.038, NOT SIGNIFICANT, heterogeneous distribution

“Nor do BWCs seem to impact specific proactive behaviors like traffic or pedestrian stops.”



Traffic: 5 Studies, RIRR=.950, NOT SIGNIFICANT, heterogeneous distribution



Pedestrian: 4 Studies, RIRR=.880, NOT SIGNIFICANT, heterogeneous distribution

# Other findings

---

- **Other outcomes** – too few studies to draw conclusions.
- **Sensitivity analyses** – no major changes in findings when removing unusual studies.
- **Moderator analysis** – what if...? – research design, unit of treatment, agency context, year of adoption, level of discretion, compliance with study, contamination, research group

What does this all mean  
for police and  
communities?





# The Impact of Body-Worn Cameras on Officer and Citizen Behaviors

*A Campbell Systematic Review*

---

CYNTHIA LUM

George Mason University  
Center for Evidence-Based Crime Policy  
Department of Criminology, Law and Society