


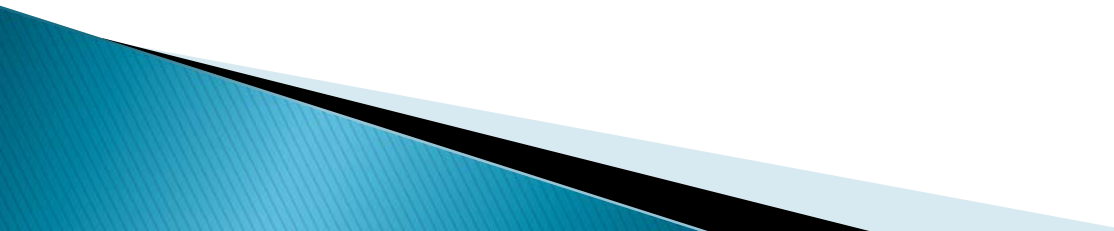
# Examining Police Officers' Resistance to Change and Body-Worn Cameras

Presentation by Wayne Richard Jakobitz Jr.  
EDD Cohort 14  
Colloquium April 21, 2018

# Problem

- ▶ Resistance to technology change / Body-Worn Cameras
  - ▶ Balci, Bedué, and Franzmann (2013)–user resistance to change is substantial because it can affect future technology acceptance.
  - ▶ Koper, Lum, and Willis (2014)–Police departments implement change without knowledge about limitations.
- 

# Purpose Statement

- ▶ The purpose of the current study was to examine whether experiences with technology or the perceived usefulness of body-worn cameras predict resistance to the cameras in order to determine where resistance to body-worn cameras possibly exists.
- 

# Literature Review

- ▶ Change: 70% of change initiatives fail (Beer & Nohria, 2000).
- ▶ Resistance to change–Dispositional resistance or Predisposition to resist (Oreg, 2003).
- ▶ Experience: Obstacles to change–Time with technology, frequency of use with technology, perceived competency with technology, and opportunity to use technology (Lankton, Wilson, & Mao, 2010; Partala & Saari, 2015; Varma & Marler, 2013).
- ▶ Technology Acceptance Model: TAM (Davis, 1989)
  - PU–Perceived Usefulness
  - PEOU–Perceived Ease of Use

# Research Questions

To what extent are police officers dispositionally resistant to change?

To what extent are police officers resistant to body-worn cameras?

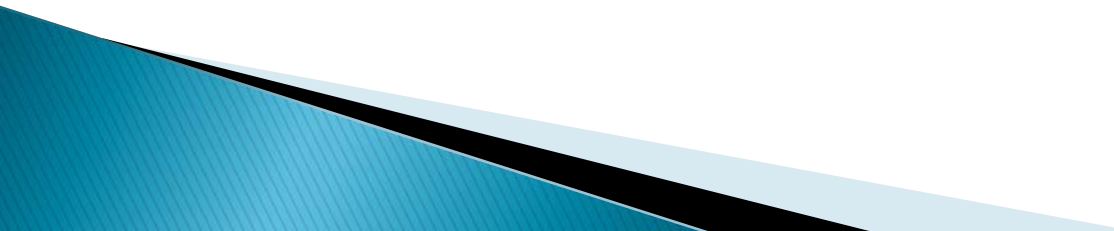
What is the relationship between officers' experiences with technology and resistance to body-worn cameras?

What is the relationship between officers' perceived usefulness of body-worn cameras and resistance to body-worn cameras?

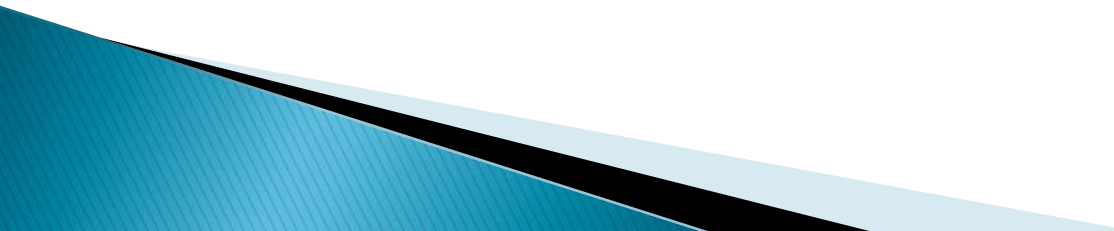
Which variable primarily predicts resistance to the use of body-worn cameras: Officers' experiences or perceived usefulness?



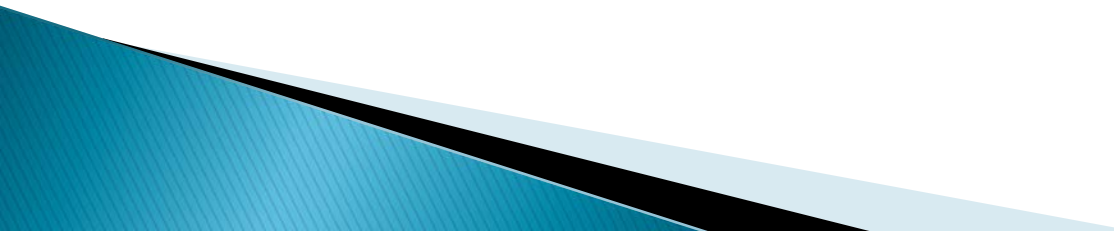
# Study Significance

- ▶ Enhance police management insight
  - ▶ Prepare police management for upcoming camera programs
  - ▶ Discern the evolution of resistance
- 

# Design

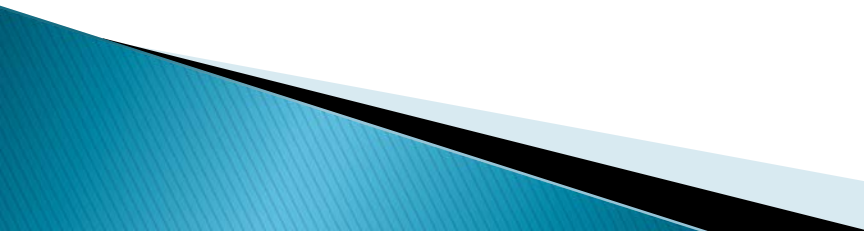
- ▶ Quantitative design
  - ▶ Descriptive Statistics and One-sample  $t$  test
  - ▶ Correlations
  - ▶ Linear and Multiple Regressions
- 

# Participants

- ▶ 11 police agencies in the study area
  - ▶ County in the Midwest USA
  - ▶ 250 police officers (full-time, part-time, and retired)
  - ▶ Purposive Sample
  - ▶ 55 responded
  - ▶ 48 used ( $n = 48$ )
- 



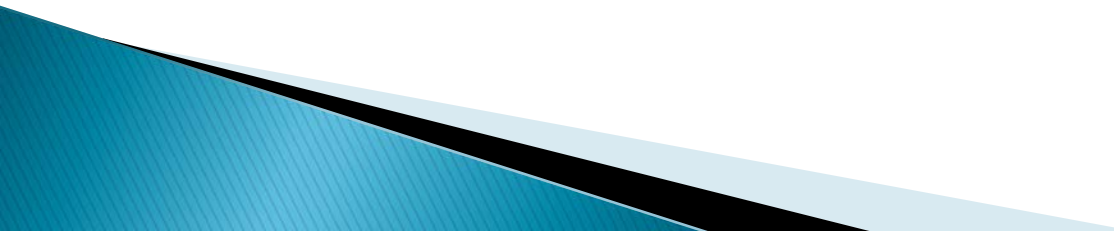
# Participant Demographics

- ▶ Non body-worn cameras (39 participants)
  - ▶ Male (44) Females (4)
  - ▶ Ages of 31 to 40
  - ▶ 10 to 14 years of law-enforcement experience.
  - ▶ Patrol officers
  - ▶ Caucasian (44), African American (1), Hispanic (2), and Asian/Pacific Islander (1)
  - ▶ Bachelor's degree
  - ▶ Department size-21 to 40 total officers.
- 

# Instruments Utilized

- ▶ Resistance to Change Scale–RTC (Oreg, 2003)  
Cronbach's  $\alpha = .80$
- ▶ Change Attitude Scale–CA (Oreg, 2006)  
Cronbach's  $\alpha = .97$  / Modified
- ▶ Experience with Technology–Pilot Study  
Cronbach's  $\alpha = .78$
- ▶ Perceived Usefulness–PU (Davis, 1993)  
Cronbach's  $\alpha = .89$
- ▶ Perceived Ease of Use–PEOU (Davis)  
Cronbach's  $\alpha = .87$

# Data Collection

- ▶ Survey through countywide email
  - ▶ August through November 2016
  - ▶ Reminder emails–Beginning of each month
- 

# Findings

- ▶ **Research Question 1:** To what extent are police officers dispositionally resistant to change?

RTC scale midpoint = 72 out of 126

( $M = 61.51$ ,  $SD = 11.78$ )

$t(42) = -5.84$ ,  $p = .000$

# Findings

- ▶ **Research Question 2:** To what extent are police officers resistant to body-worn cameras?

Modified CA scale midpoint = 60 out of 105

$(M = 43.26, SD = 21.69)$

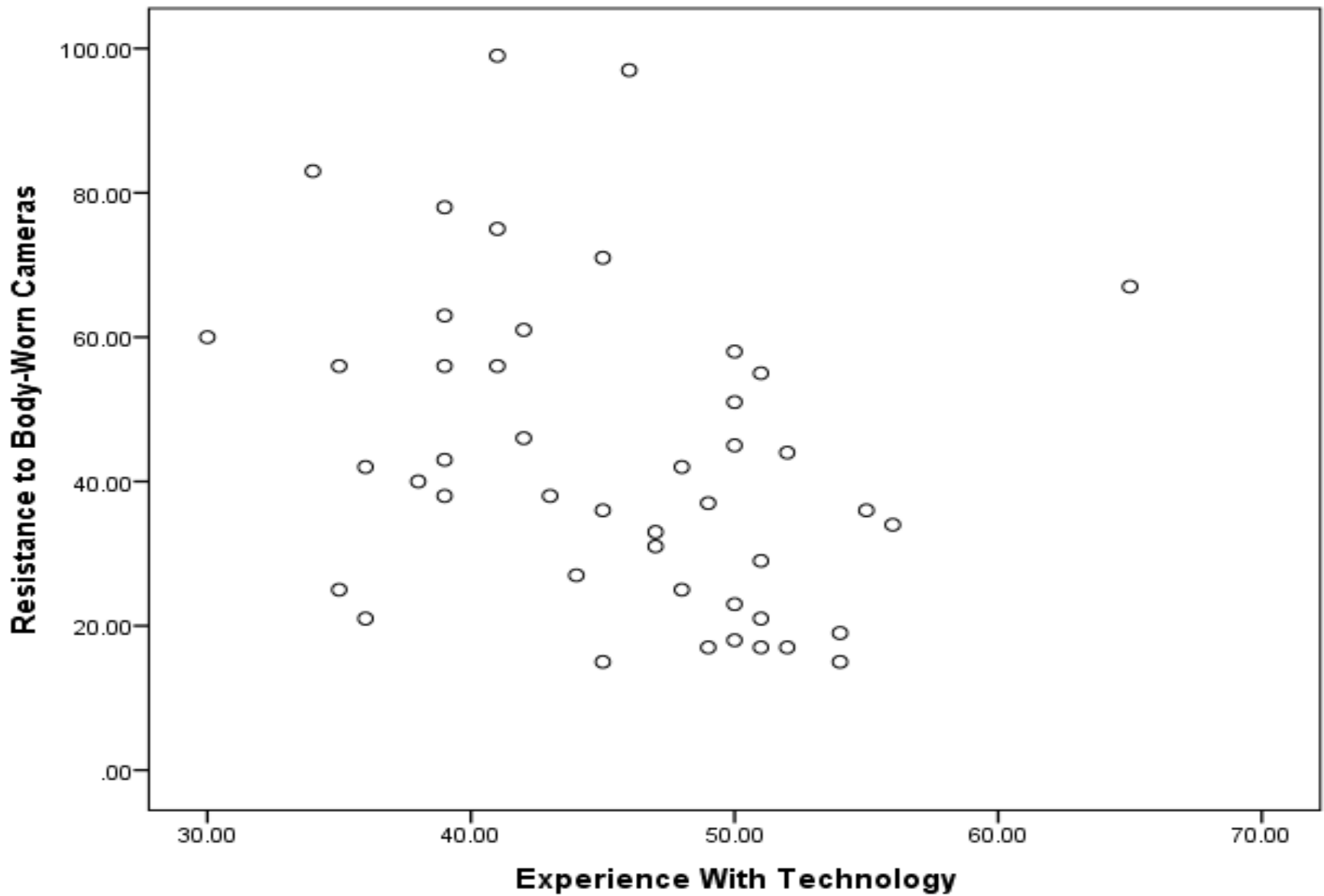
$t(45) = -5.23, p = .000$

# Findings

- ▶ **Research Question 3:** What is the relationship between officers' experiences with technology and resistance to body-worn cameras?

$$\beta = -.32, t(43) = -2.19, p = .034$$

10% of the variance



*Figure 1.* Scatterplot depicting the relationship between experience with technology and resistance to body-worn cameras.

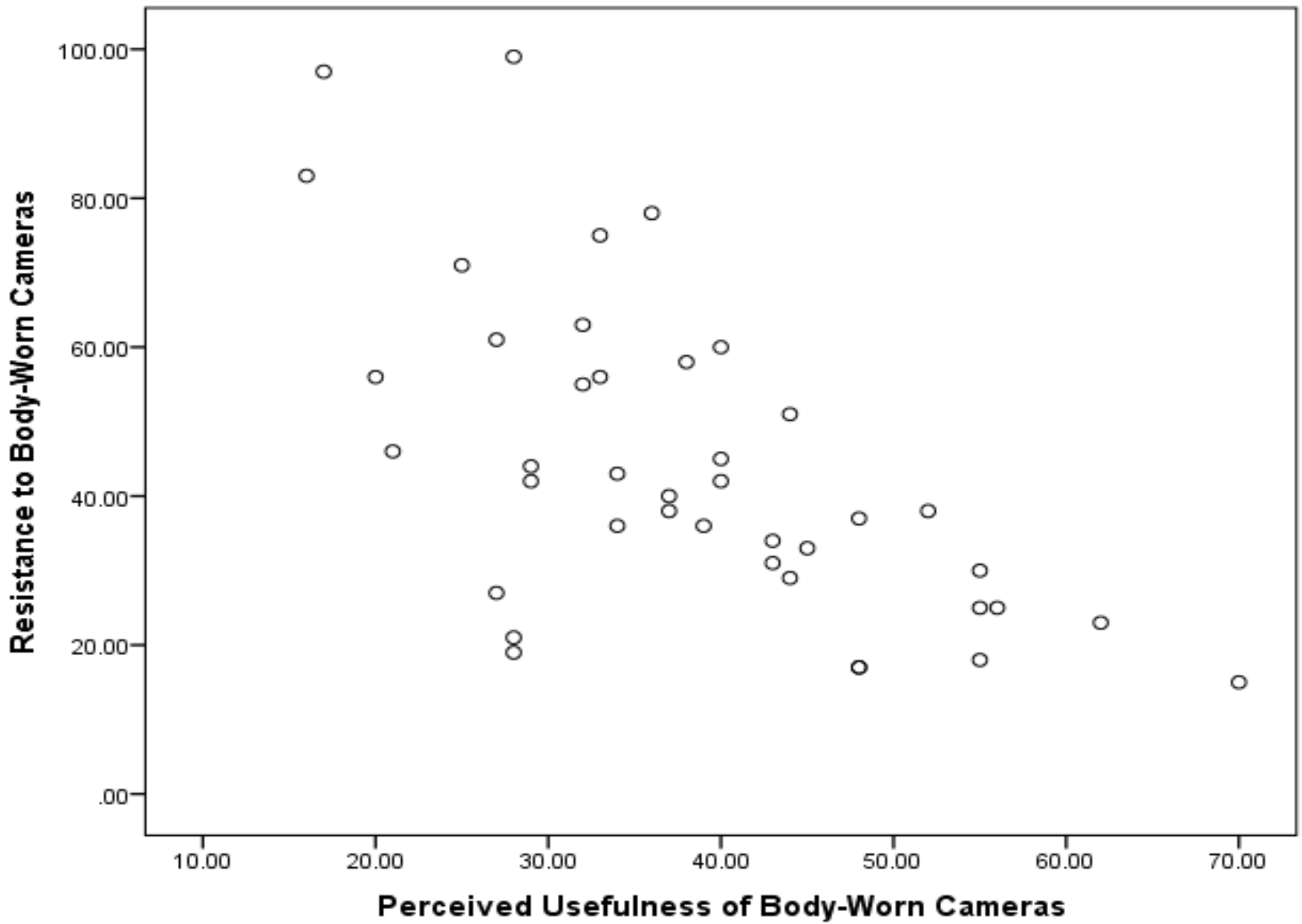
# Findings

- ▶ **Research Question 4:** What is the relationship between officers' perceived usefulness of body-worn cameras and resistance to body-worn cameras?

$$\beta = -.64, t(39) = -5.18, p = .000$$

41% of the variance

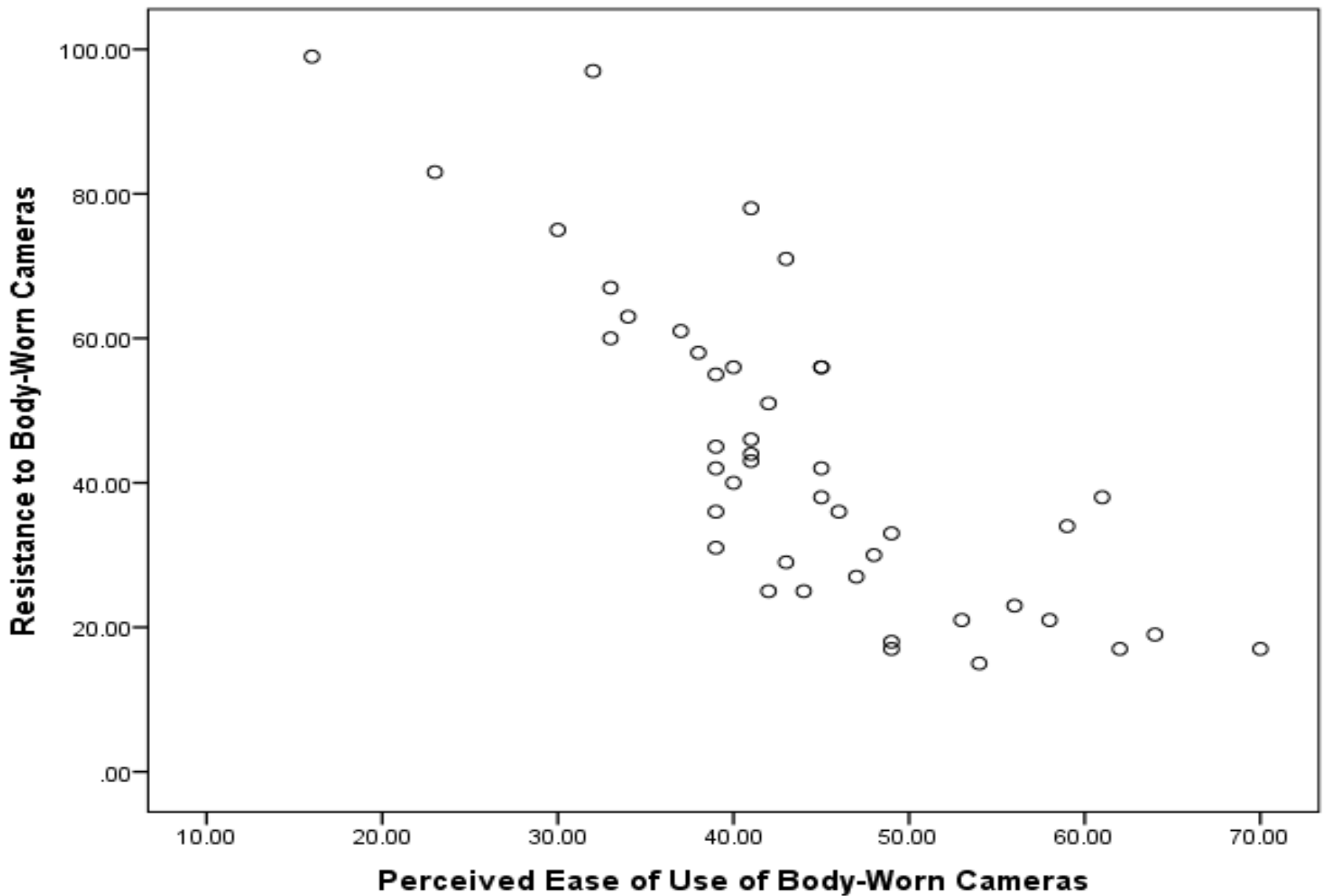




*Figure 2.* Scatterplot depicting the relationship between perceived usefulness and resistance to body-worn cameras.

# Findings

- ▶ **Additional findings on Research Question 4:**
- ▶ Covariate PEOU–Multiple Regression PU and PEOU
- ▶  $F(2, 37) = 43.34, p = .000, R^2 = .70$
- ▶ PU ( $\beta = -.35, t(37) = -3.44, p = .001$ )
- ▶ PEOU ( $\beta = -.61, t(37) = -6.04, p = .000$ )



*Figure 3.* Scatterplot depicting the relationship between perceived ease of use of body-worn cameras and resistance to body-worn cameras.

Table 1

*Pearson Product Correlation, Beta Weights, and t-values for Multiple Regression: Perceived Usefulness and the Covariant of Perceived Ease of Use of Body-Worn Cameras*

Predictor Variable	Resistance to Body-Worn Cameras		
	<i>r</i>	$\beta$	<i>t</i>
Perceived Usefulness of BWC	-.64*	-.35	-3.44
Perceived Ease of Use of BWC	-.78*	-.61	-6.04

\* $p < .01$

# Findings

- ▶ **Research Question 5:** Which variable primarily predicts resistance to the use of body-worn cameras: Officers' experiences or perceived usefulness?

$$F(2, 37) = 14.91, p = .000, R^2 = .47$$

$$\text{PU: } \beta = -.58, t(37) = -4.58, p = .000$$

$$\text{EXP: } \beta = -.22, t(37) = -1.78, p = .092$$

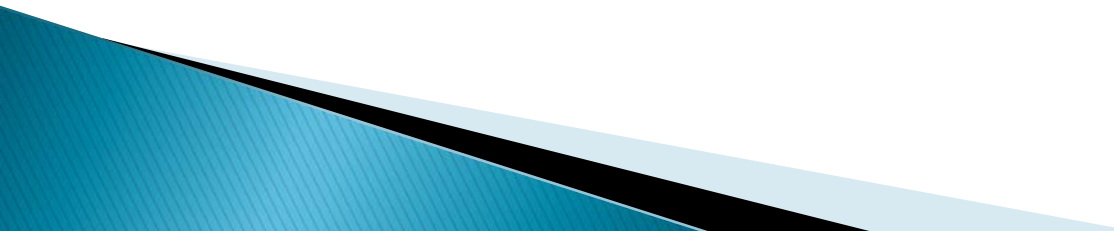
Table 2

*Pearson Product Correlation, Beta Weights, and t-values for Multiple Regressions:  
Experience and Perceived Usefulness as Predictors*

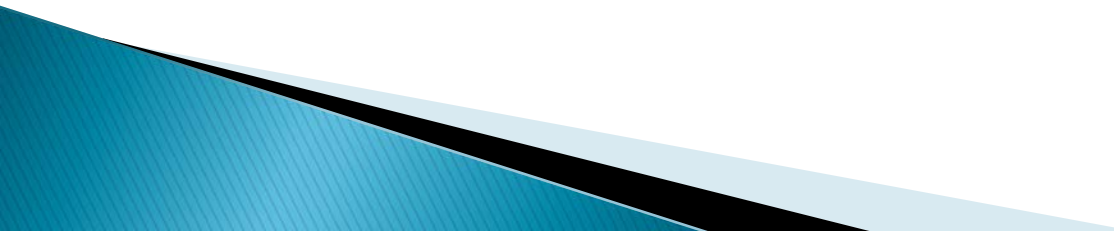
Predictor Variable	Resistance to Body-Worn Cameras		
	<i>r</i>	$\beta$	<i>t</i>
Experience with Prior Technology	-.36	-.22	-1.73
Perceived Usefulness of BWC	-.63*	-.58	-4.58

\* $p < .01$

# Conclusions–Research Question 1

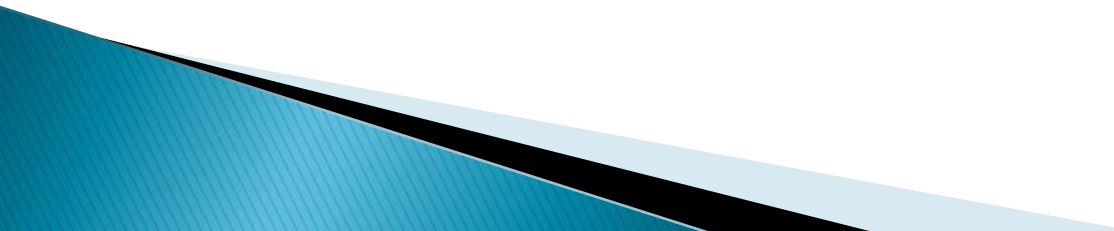
- ▶ Participant police–Low predisposition to resist change
  - ▶ Climate in which officers work
  - ▶ May feel that new changes are needed
- 

# Conclusions–Research Question 2


- ▶ Low resistance to body–worn cameras.
  - ▶ Resistance to body–worn cameras/may not be an issue prior to implementation.
- 



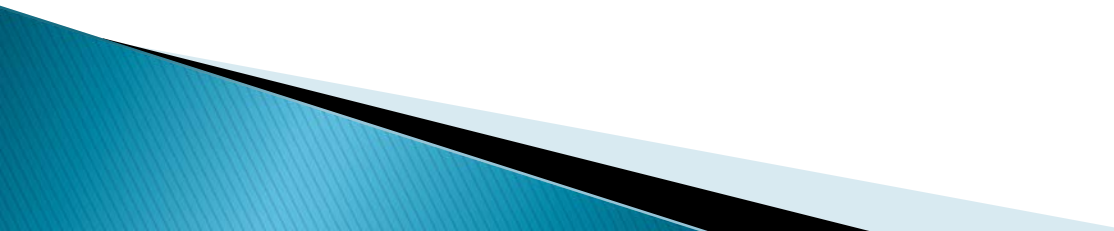
# Conclusions–Research Question 3

- ▶ Less experience with other technologies–officers might be resistive to using body-worn camera technology.
  - ▶ Officers do not employ their prior experience over other variables such as PU and PEOU.
- 


# Conclusions–Research Question 4

- ▶ Officers' performance is important in relationship to resistance to the cameras
  - ▶ Officers thinking about the amount of effort to use the device even before implementation
  - ▶ Effort needed to use the body-worn camera could shape officers' performance
  - ▶ Officers might not always be content with cameras' use or benefits
  - ▶ PEOU–Important to identify in terms of officers' resistance
- 

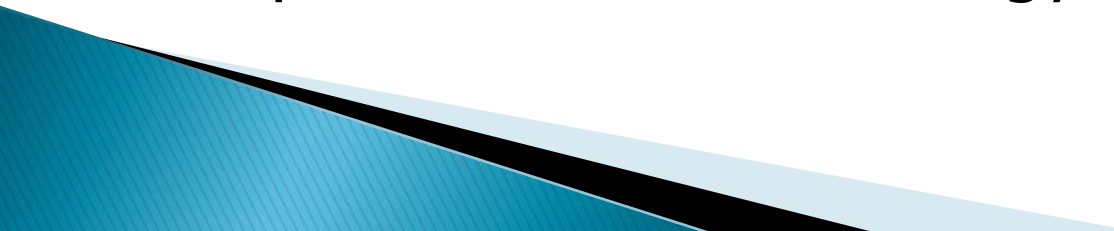
# Conclusions–Research Question 5

- ▶ Experiences with technologies–Smaller role in officers' attitudes toward resistance than expected
  - ▶ Experience–most likely more multifaceted
  - ▶ Perceived usefulness better predictor
- 

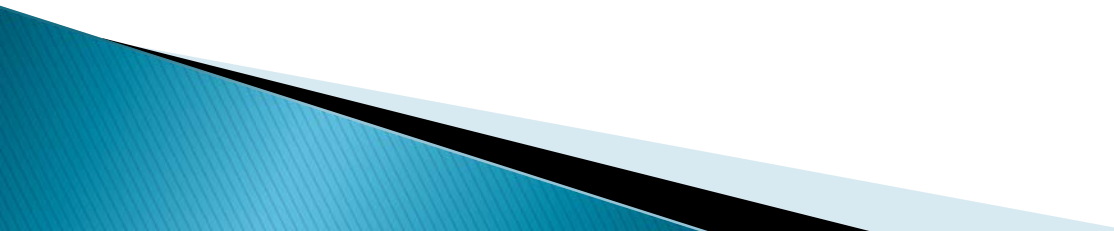
# Implications

- ▶ RTC–Management tool
  - ▶ Police training/PEOU–Starting point
  - ▶ BWC program implementation–Discovering the limitations in the implementation process and functionality of body–worn cameras.
  - ▶ Cameras angles–Perspective bias (Boivin, Gendron, Faubert, & Poulin, 2016).
- 

# Limitations

- ▶ Low participation rate
  - ▶ Lack of other research
  - ▶ Lack of variables
  - ▶ Use of work emails
  - ▶ Rural demographic
  - ▶ Experience with technology items
- 

# Recommendations

- ▶ Methodology
  - ▶ Variables, such as self-efficacy, job satisfaction, and workload–Change results
  - ▶ Diversity of participants–Participants from larger agencies
  - ▶ Experience with technology–validity
  - ▶ Use personal emails
- 

# References

- Balci, B., Bedué, P., & Franzmann, D. (2013). "Online or offline, what do you prefer?" Pre-test of measurement scales for empirical analysis. *Proceedings of the AIS Special Interest Group on Adoption and Diffusion of Information Technology (SIGADIT) Workshop*. Retrieved from <http://aisel.aisnet.org/digit2013/1>
- Beer, M., & Nohria, N. (2000). Cracking the code of change. *Harvard Business Review*, 78(3), 133-141.
- Boivin, R., Gendron, A., Faubert, C., & Poulin, B. (2016). The body-worn camera perspective bias. *Journal of Experimental Criminology*. Advance online publication. <http://dx.doi.org/10.1007/s11292-016-9270-2>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 13(3), 319-340. <http://dx.doi.org/10.2307/249008>
- Davis, F. D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, 38(3), 475-487. <http://dx.doi.org/10.1006/imms.1993.1022>
- Koper, C. S., Lum, C., & Willis, J. J. (2014). Optimizing the use of technology in policing: Results and implications from a multi-site study of the social, organizational, and behavioral aspects of implementing police technologies. *Policing*, 2(8), 212-221. <http://dx.doi.org/10.1093/police/pau015>

# References

- Lankton, N. K., Wilson, E. V., & Mao, E. (2010). Antecedents and determinants of information technology habit. *Information & Management*, 47(5), 300-307.  
<http://dx.doi.org/10.1016/j.im.2010.06.004>
- Oreg, S. (2003). Resistance to change: Developing an individual differences measure. *Journal of Applied Psychology*, 88(4), 680-693. <http://dx.doi.org/10.1037/0021-9010.88.4.680>
- Oreg, S. (2006). Personality, context, and resistance to organizational change. *European Journal of Work and Organizational Psychology*, 15(1), 73-101.  
<http://dx.doi.org/10.1080/135943220500451247>
- Partala, T., & Saari, T. (2015). Understanding the most influential user experiences in successful and unsuccessful technology adoptions. *Computers in Human Behavior*, 53, 381-395.  
<http://dx.doi.org/10.1016/j.chb.2015.07.012>
- Varma, S., & Marler, J. H. (2013). The dual nature of prior computer experience: More is not necessarily better for technology acceptance. *Computers in Human Behavior*, 29(4), 1475-1482. <http://dx.doi.org/10.1016/j.chb.2013.01.029>