THE EFFECT OF BODY-WORN CAMERA ACTIVATION AND AUDITING POLICIES ON PERCEPTIONS OF MONITORING FAIRNESS

A NATIONAL SURVEY VIGNETTE EXPERIMENT

PUBLIC MANAGEMENT RESEARCH CONFERENCE, HAWAII, 2021

BODY-WORN CAMERAS: 2015-2020

- General Prediction: Deterrent effects lead to decreased police use-of-force, external complaints
- Review of 70 studies from Cynthia Lum, et al. (2019): "BWCs have not had statistically significant or consistent effects on most measures of officer and citizen behavior or citizens' views of police."
  - See White and Malm (2020) for slightly more optimistic take: heterogenous agencies = heterogenous effects
- Two potential reasons?
  - Officers not **activating** the cameras? If officers intentionally avoid BWC recording by failing to activate the camera, then the deterrent effect is not achieved.
    - Adams, Mourtgos, & Mastracci (2021) – attitudes & demographics not significant predictors of activations, but policies are
  - BWC footage is overwhelmingly large, with limited resources to **review and audit**. Are we simply missing officer misconduct and unreported use-of-force?

CAMERA ACTIVATION

- The vast majority of body-worn cameras rely on "manual" activation
  - On the most popular camera, the officer double-taps a large circular button on the front of the battery case
- "Automatic" activation takes this control away from the officer. Various types:
  - Holster
  - GPS/location-based
  - emergency equipment
  - "sympathetic" activation (i.e. Bluetooth)

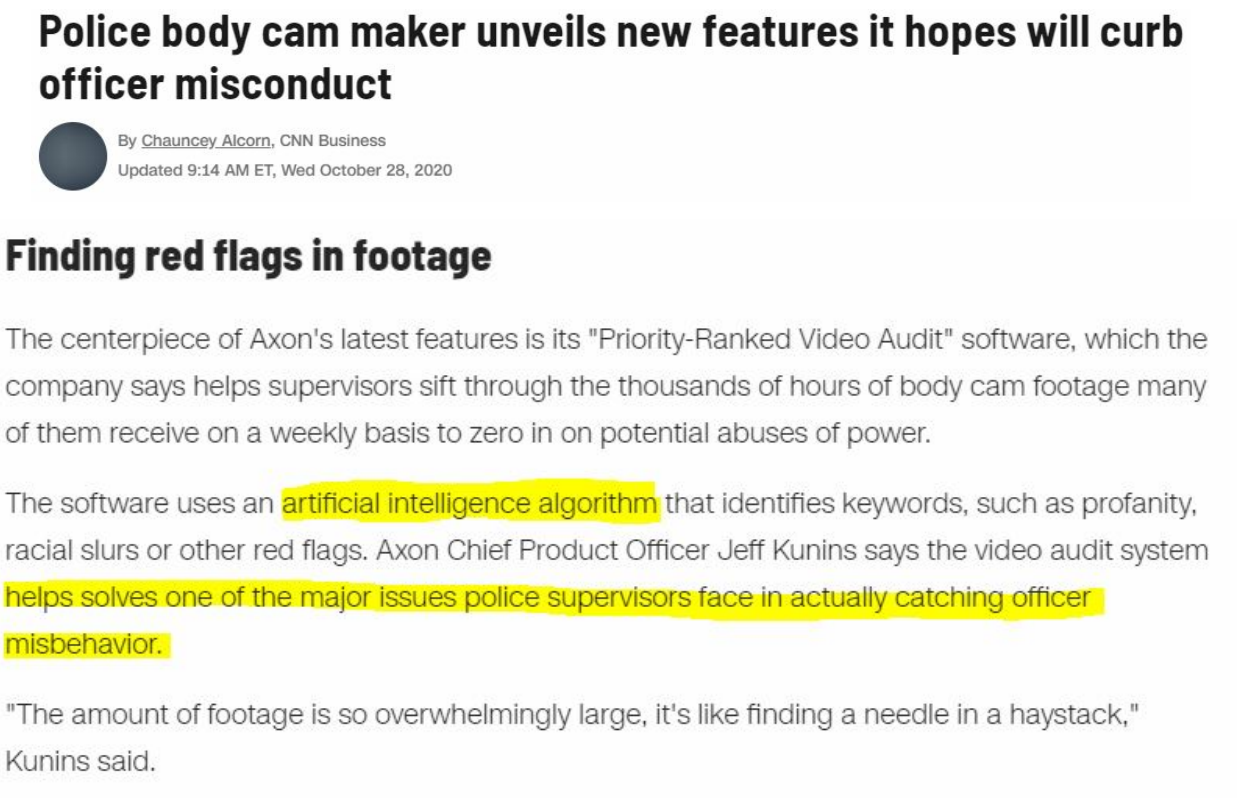
BIG DATA, BIG PROBLEMS

- Body-worn cameras generate a tremendous amount of data
  - Federal funding = specifically *cannot* be used for storage costs
- But the perhaps more salient problem – how do you review it? Who should do it?
- Example: One hour incident x 3 officers = three hours of review time…in a normal agency, this adds up very quickly.
- Reality of limited resources – 'on demand' review, i.e. upon complaint or use-of-force

ALGORITHMIC REVIEW

Significant industry and academic effort to develop algorithmic review to address the BWC footage review gap.

- Using BWC footage, David Makin's lab at Washington State University has been developing complex models of social interaction involving police (Makin, Willits, and Brooks 2020), which would allow for computer-mediated feedback to officers.
- Axon, the largest BWC manufacturer, heavily involved →→→



Police body cam maker unveils new features it hopes will curb officer misconduct

By Chauncey Alcorn, CNN Business
Updated 9:14 AM ET, Wed October 28, 2020

Finding red flags in footage

The centerpiece of Axon's latest features is its "Priority-Ranked Video Audit" software, which the company says helps supervisors sift through the thousands of hours of body cam footage many of them receive on a weekly basis to zero in on potential abuses of power.

The software uses an artificial intelligence algorithm that identifies keywords, such as profanity, racial slurs or other red flags. Axon Chief Product Officer Jeff Kunins says the video audit system helps solves one of the major issues police supervisors face in actually catching officer misbehavior.

"The amount of footage is so overwhelmingly large, it's like finding a needle in a haystack," Kunins said.

THEORETICAL PREDICTIONS

- Control is a basic organizational function
- Monitoring is a form of that control
- Research on electronic performance monitoring of the workplace is almost exclusively based in the *private sector* -- much of this research housed in organizational psychology
- Organizational justice literature concerned directly with fairness perceptions of officers (Wolfe & Lawson, 2020). Basic lesson is that enhancing organizational justice *within* police agencies leads to more procedurally just officers.
- Theoretical predictions from these literatures:
  - (Target control) A lack of control over when monitoring begins will decrease the employees' perceptions of monitoring fairness (Behrend et al., 2019; McNall & Stanton, 2011; Stanton, 2000a; Zweig & Webster, 2002)
  - (Synchronicity) Lack of control regarding when review occurs will decrease perceptions of fairness, and
  - (Feedback Source) As review moves away from supervisor, perceptions of fairness will decrease.
    - Very limited theoretical guidance, no empirical evidence: Ravid et al. (2020, p. 113-114): "it may not be true that individuals receive and perceive highly synchronous automatized feedback in the same manner as when delivered by a peer or supervisor"

A 2 X 3 FACTORIAL VIGNETTE EXPERIMENT (N = 232)

Factor Level Name	Factor Level Text
Activation 1 (Manual)	Officers will activate the cameras manually by pressing the "record" button on the body-worn camera, as required by policy. When appropriate according to the policy, officers are allowed to stop the recording.
Activation 2 (Automatic)	The body-worn cameras will record automatically, by turning on when an officer, or any officer within 100 yards, leaves their vehicle (with a door sensor), draws their weapon (with a holster sensor), or turns on their vehicle's emergency lights or siren. When appropriate according to the policy, officers are allowed to stop the recording.
Review 1 (On-Demand)	Body camera footage will only be reviewed when needed, such as complaints about unprofessional conduct or unreported use-of-force.
Review 2 (Supervisor Random)	Supervisors will randomly review at least five body-camera recordings every month for every officer, in order to monitor for policy violations (such as unprofessional conduct and unreported use-of-force).
Review 3 (Artificial Intelligence Random)	An artificial intelligence computer program will randomly review at least five body-camera recordings every month for every officer, in order to monitor for policy violations (such as unprofessional conduct and unreported use-of-force).

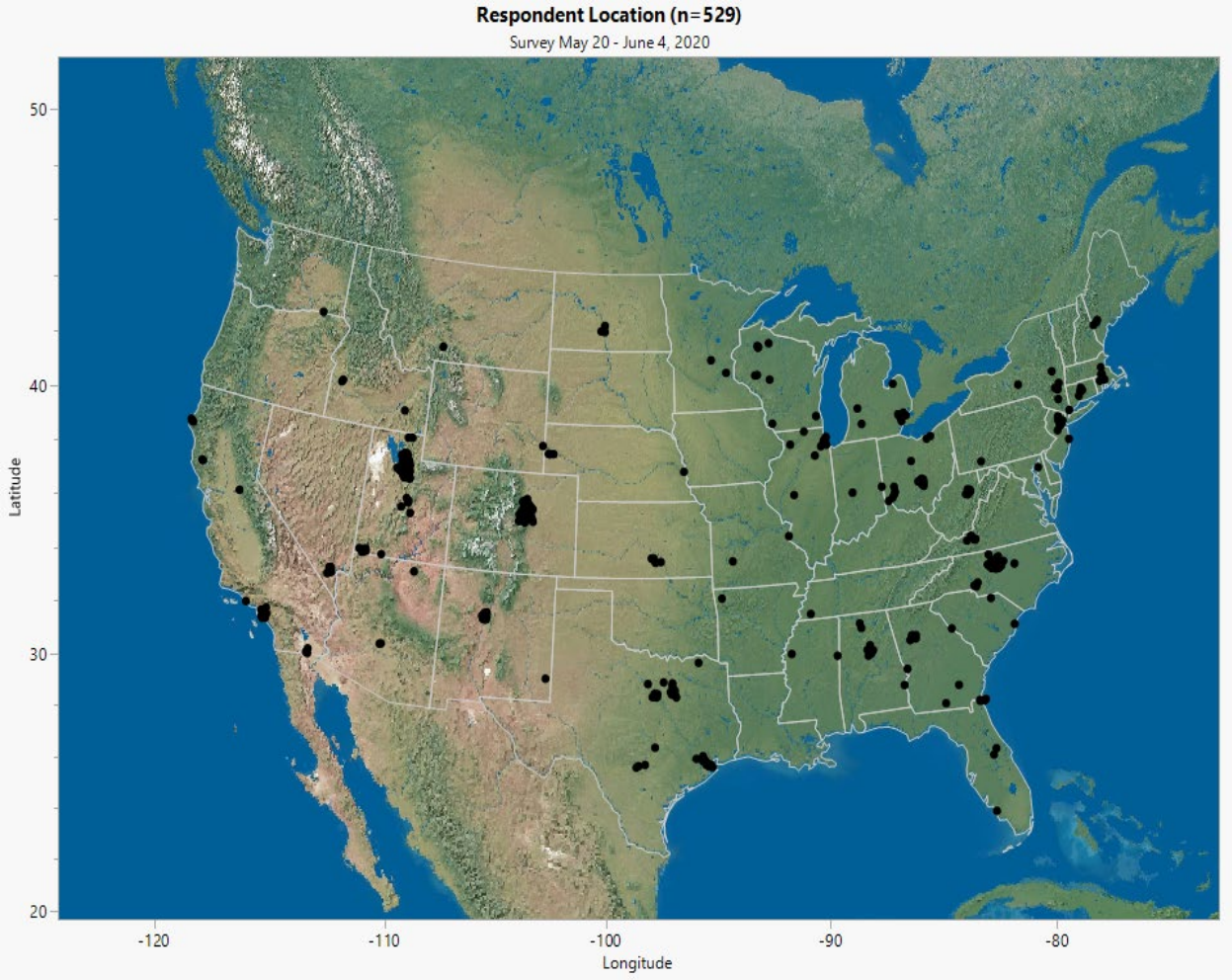
Imagine you work for Palgrave Police Department as a patrol officer. The department has decided to equip all patrol officers with a body-worn camera. All interactions with the public will be recorded by policy, except in certain situations such as interviews with juvenile victims.

Officers will activate the cameras manually by pressing the "record" button on the body-worn camera, as required by policy. When appropriate according to the policy, officers are allowed to stop the recording.

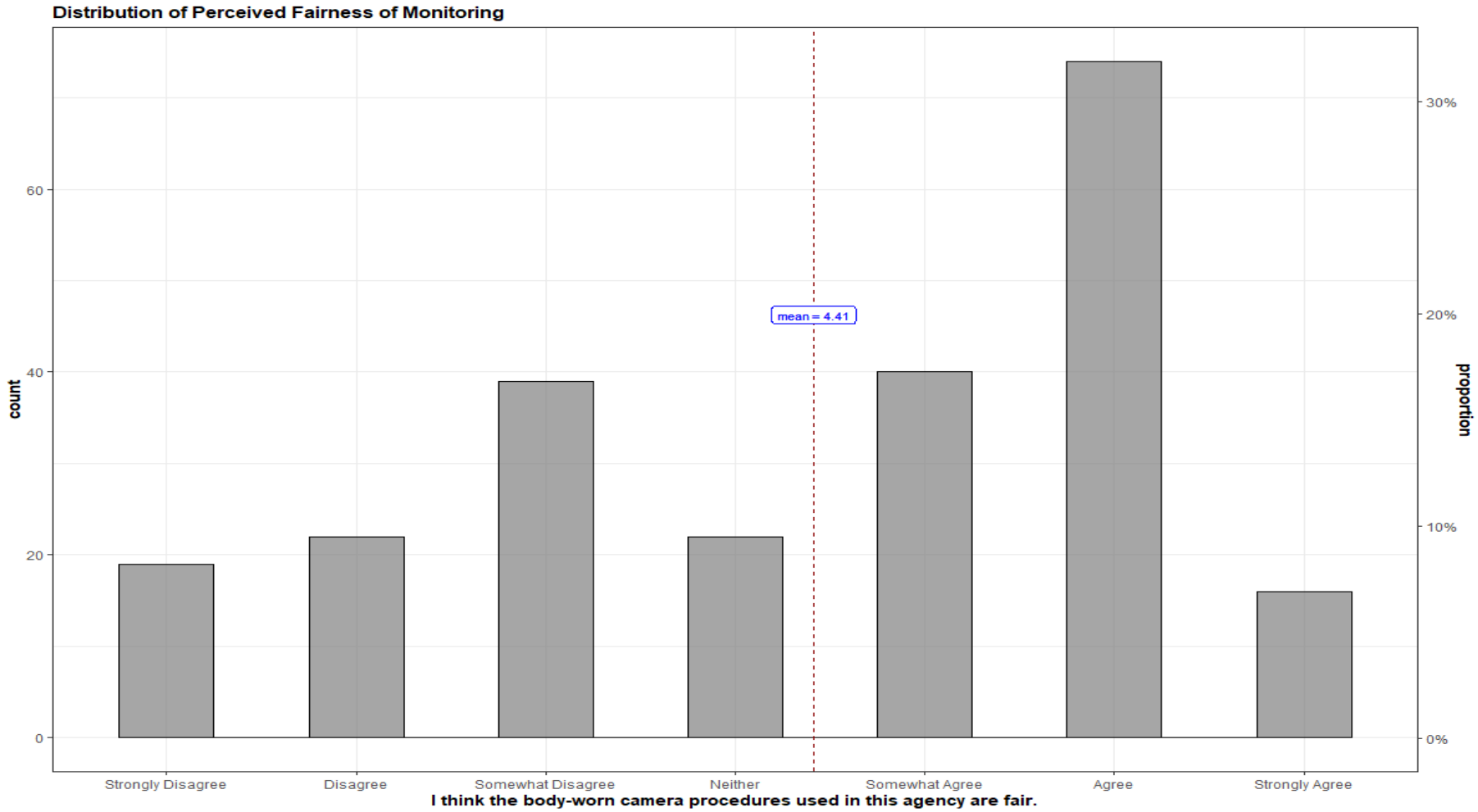
An artificial intelligence computer program will randomly review at least five body-camera recordings every month for every officer, in order to monitor for policy violations (such as unprofessional conduct and unreported use-of-force).

DESIGN: STRATIFIED RANDOM NATIONAL SAMPLE

- US has about 18,000 sub-federal law enforcement agencies
  - Median agency is around 10 officers
- Body-worn cameras have diffused to about 60% of agencies (Nix, Todak, & Tregle 2020)
- So, stratify by size, creating an oversample of large agencies (could impact generalizability, common strategy in this research area)
  - Commercial database of every law enforcement chief executive in the US
  - Four strata (agency size) with 700 agencies each
  - Survey live from May 20 thru June 4, 2020
  - Total sample n=529 (BWC & non-BWC officers)
  - Note: Book-ended by Covid-19 & Police Protests

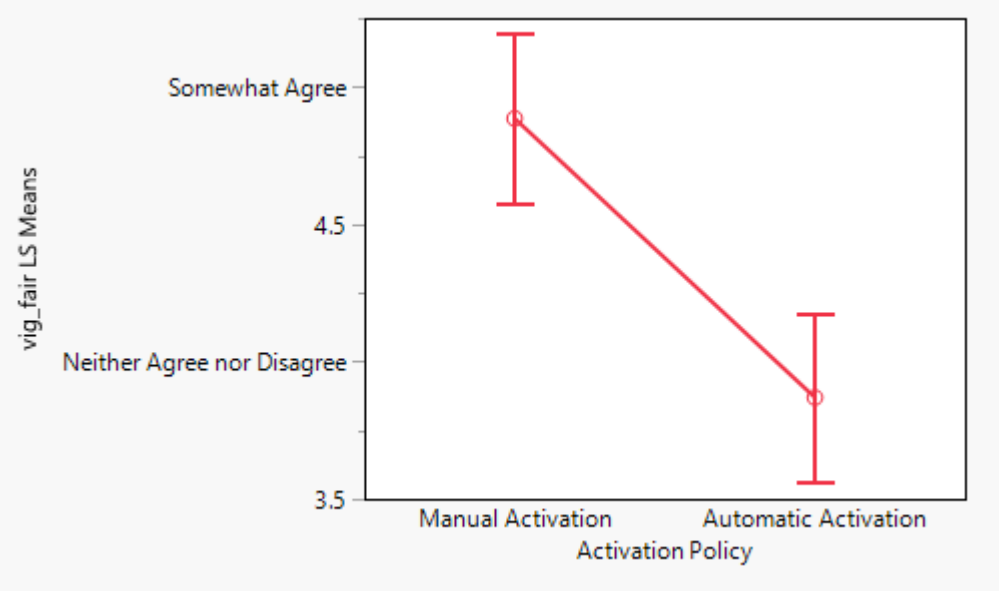


DISTRIBUTION OF DEPENDENT VARIABLE - FAIRNESS



MAIN EFFECTS – ACTIVATION TYPE

"I think the body-worn camera procedures used in this agency are fair."

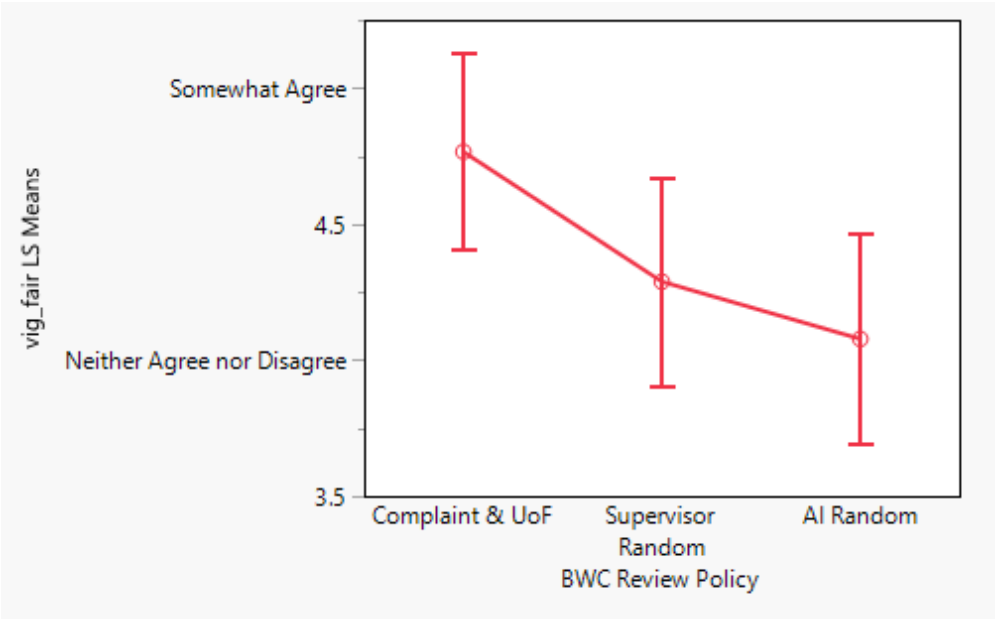


Results

- Find support for the first hypothesis:
- As control over monitoring decreases, perceived fairness of the policy significantly decreases.

MAIN EFFECTS – AUDITING TYPE

"I think the body-worn camera procedures used in this agency are fair."

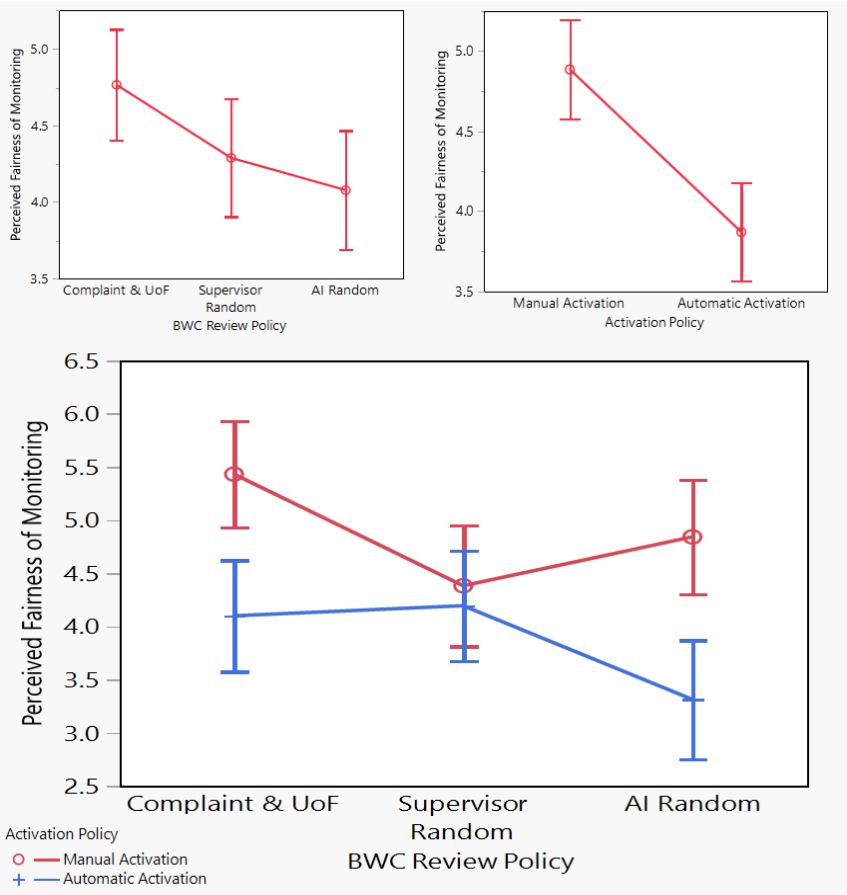


Results

- Find support for the second hypothesis:
- As review locus becomes less predictable and moves away from direct supervisor, perceived fairness of monitoring decreases.

INTERACTION EFFECTS – ACTIVATION + AUDITING

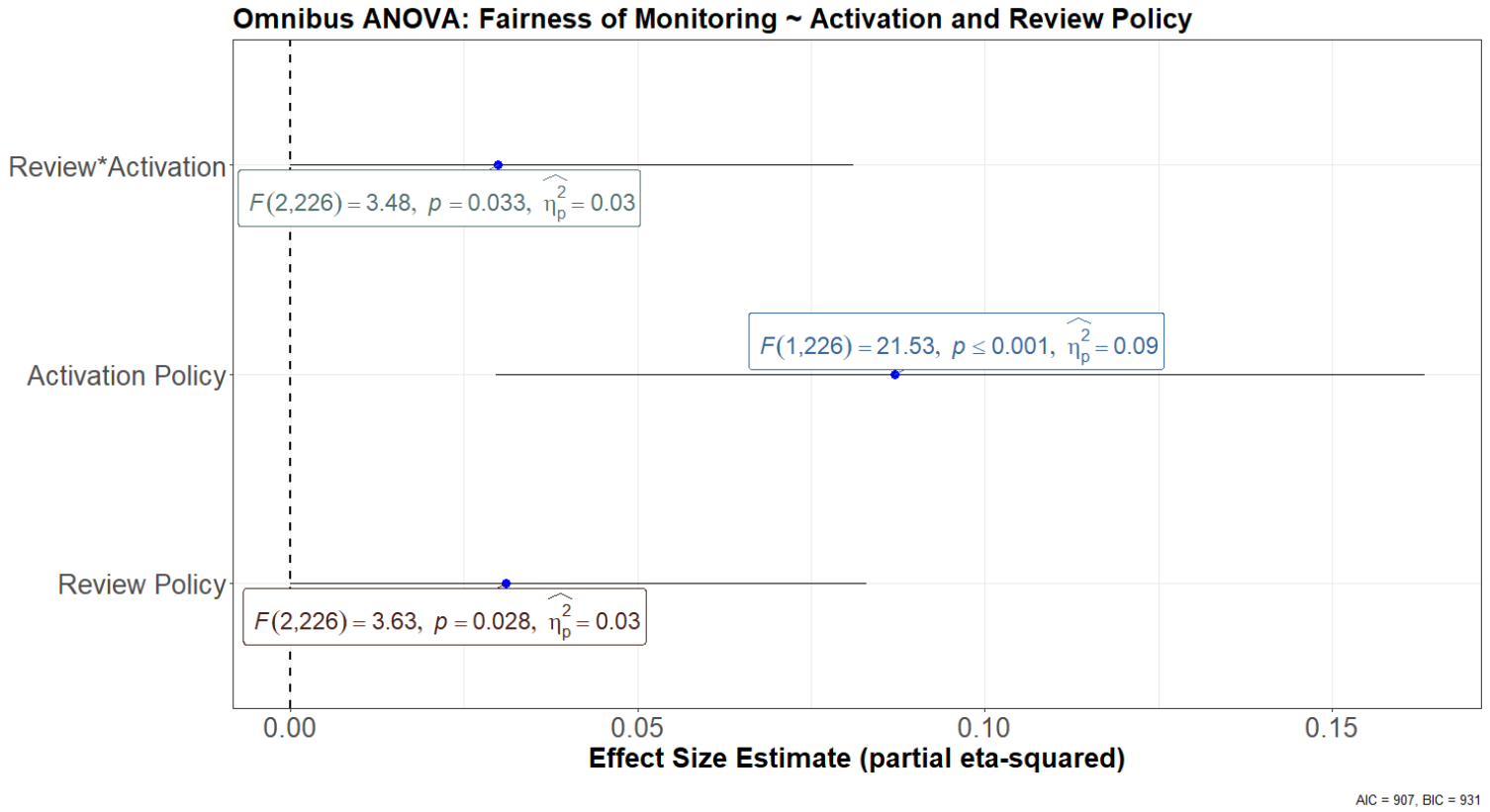
"I think the body-worn camera procedures used in this agency are fair."



Results

- Support for the hypothesized interaction effect
- Significantly more intense effect when respondents lack control over activation *and* the resulting footage is subject to AI review
- Direct Supervisory Review seems to protect against the perceived unfairness of automatic activation.

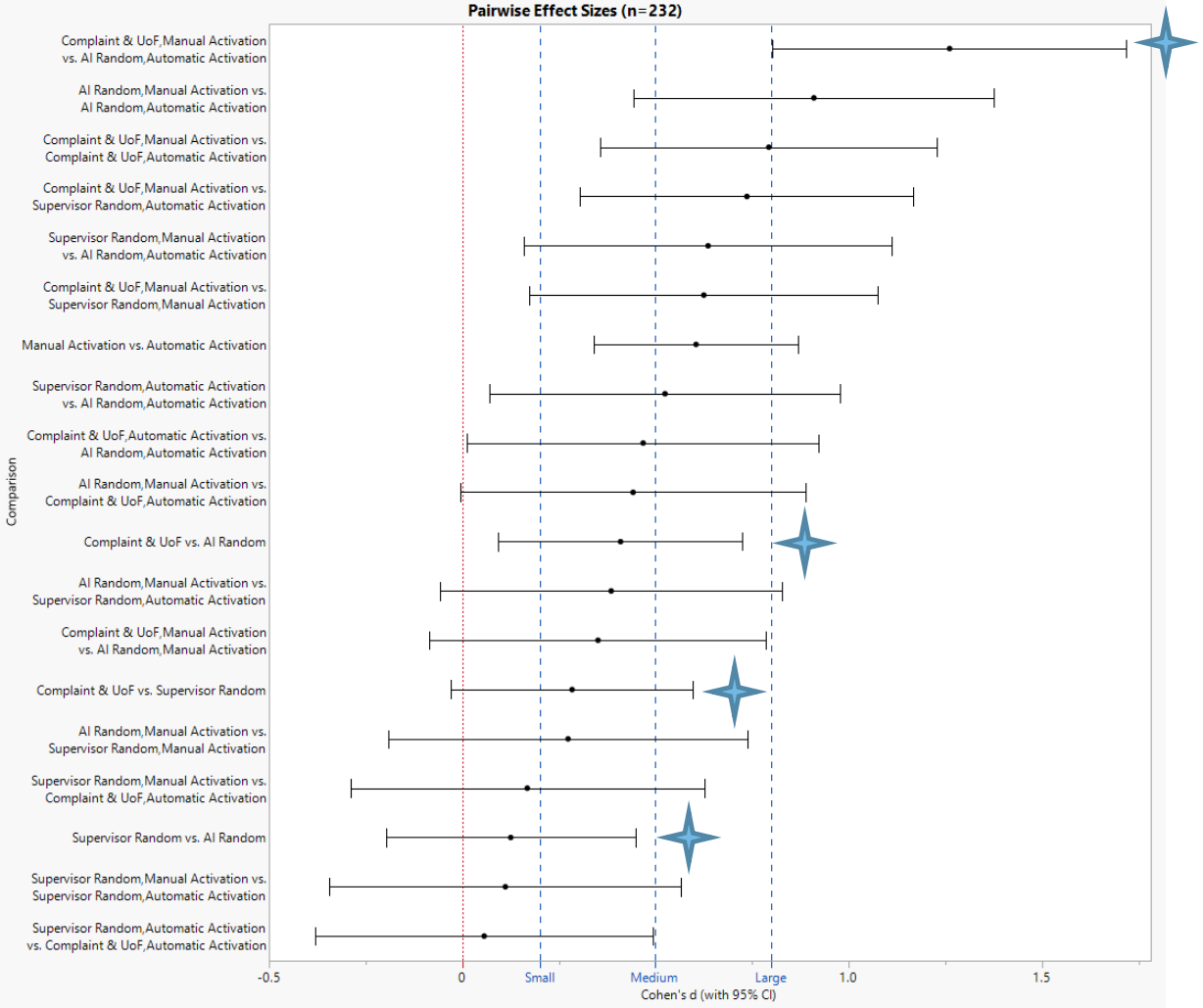
EFFECT SIZE ESTIMATES – MODEL LEVEL EFFECTS



Both main and interaction effects are significant.

Model-level effects are medium to large in size.

PAIRWISE EFFECT SIZE, MAIN & INTERACTION



One strength of the factorial design is we can investigate both within and between factors.

Nineteen possible combinations of factor levels, of varying effect size and statistical significance.

We see some relatively large effect sizes in the experiment. Largest three (moving from → to):

- Manual/On-demand → Automatic/AI
- Manual/AI → Automatic/AI
- Manual/On-demand → Automatic/On-Demand

IMPLICATIONS

- Perceptions of monitoring fairness are affected by the policy context of body-worn cameras
- Fairness is a critical organizational justice measure. Higher levels of organizational justice impacts across the CJ system – better retention and job satisfaction, and less misconduct! (Wolfe & Lawson, 2020)
- Law enforcement agencies are already at critically strained personnel levels (PERF, 2021; Mourtgos, Adams, Nix, *under review*)
- Agencies should consider the implications of increasingly surveilled workplaces on their employees.
  - Not all policy combinations and implementation schedules are likely to have the same effect on perceived organizational justice.

THANK YOU

Shameless plug - I'll be on the job market this fall! CV and other materials on my website: www.ianadamsresearch.com

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