

**Monitoring and Its Dual Psychological Impact on Autonomy and Conflict:
A Study of Body Worn Cameras in Law Enforcement**

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ABSTRACT

Organizational psychologists have typically found that by reducing employees' sense of autonomy and discretion, monitoring negatively impacts employee effectiveness. However, we argue that this prior research assumes that evaluators have exclusive access to footage, which does not necessarily hold in an increasing number of contexts that also allow employee access. Accounting for employee access to monitoring data is critical because it enables us—as informational power theories would suggest—to shed light on an additional, previously unacknowledged consequence of monitoring. While monitoring with employee access may continue to negatively impact employees' *task* cognitions in terms of reducing their sense of freedom and discretion, we hypothesize that it will also positively impact their *relational* cognitions by reducing information asymmetries and thereby perceptions that there is strong conflict between evaluators and employees. Low perceived conflict should in turn attenuate the negative effects that low autonomy would otherwise have on employee effectiveness. We find support for these hypotheses across three studies conducted in the law enforcement context. In a quasi-field experiment of body worn cameras (BWCs) (Study 1), we find that BWCs simultaneously lowered officers' perceived autonomy and perceived conflict between law enforcement and the general public. We further find in a study involving independent expert ratings of officer BWC videos (Study 2a) and time-lagged, self-report data (Study 2b) that lower autonomy and lower conflict negatively interact to shape employee effectiveness. Overall, our studies offer novel insights into the psychological “levers” that organizations can use to mitigate the oft-cited risks of monitoring systems.

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Since the introduction of Taylor's (1911) scientific management theories, monitoring—or “the observation, examination, and/or recording of employee work-related behaviors” (Stanton, 2000: 87)—has been considered to be critical to basic organizational functioning (Cyert & March, 1963; Perrow, 1970; Weber, 1947). Recently, technological advancements have intensified the breadth and depth of monitoring practices by replacing the naked eye with more sophisticated, unobstructed means of observation (Anteby & Chan, 2018; Bernstein, 2017; Gilliom & Monahan, 2012). For instance, RFID (radio-frequency identification) technologies are being used to track manufacturing workers' progress (Ranganathan & Benson, 2017) and healthcare providers' handwashing in hospitals (Dai, Milkman, Hofmann, & Staats, 2015); embedded sensors are being used to record truck drivers' efficiency (Blader, Gartenberg, & Prat, 2017; Levy, 2015); cameras are being used to evaluate employees' customer service in casinos (Peck, 2013); and point-of-sale systems are being used to detect fraud among grocery store clerks (Pierce, Snow, & McAfee, 2015). One of the most robust and well-known organizational psychology findings is that monitoring systems, by capturing behaviors that may have otherwise not been observed, tend to reduce employees' sense of autonomy, or freedom and discretion they believe they have to conduct their tasks (Aiello & Kolb, 1995; Alge & Hansen, 2014; Anteby & Chan, 2018). While this reduction of autonomy may prompt some compliant behaviors in the short run (e.g., Bhave, 2014; Staats, Dai, Hofmann, & Milkman, 2016), numerous studies have demonstrated that sustaining such compliance may be problematic as employees rebel against the loss of freedom and control in ways that undermine their effectiveness (e.g., Batt, 2002; Bernstein, 2012; Shaw, Delery, Jenkins, & Gupta, 1998).

However, this literature linking monitoring to lower employee effectiveness implicitly assumes that such devices are implemented in a traditional, top-down fashion with supervisors and other evaluators retaining near-exclusive access to the collected data. While this may still be true in some contexts, recent technological advancements have enabled monitoring systems to be designed and implemented in such a way that permits multiple parties—including peers, external evaluators such as customers, auditors, and the public, and most relevant to this article, *employees themselves*—to retain control of or have legitimate means to transparently access the recorded data (Bauman & Lyon, 2013;

Deuze, 2012; Jurgenson, 2013). Consider, for example, the implementation of monitoring systems in law enforcement where police officers, in addition to supervisors and the public, have access to body worn camera footage (Yohe, 2017). Similarly, in hospitals and mental health institutions, physicians and surgeons, in addition to hospital administrators and patients, can access recordings (Hardy et al., 2017; Lahey, 2014). Finally, in public schools, teachers, in addition to administrators and student advocates, can retrieve classroom camera footage (Walker, 2015).

Drawing on classic theories on informational power, we argue that accounting for employee access to recorded footage is critical for two reasons. First, by assuming employee access, we can shed light on an additional, previously unacknowledged psychological impact that monitoring can have beyond simply reducing employees' perceived autonomy: it can fundamentally and positively alter employees' perceptions of the employee-evaluator relationship. Specifically, informational power theories posit that exclusive access to information can trigger relational conflict in a two-part process: (a) party B perceives power asymmetries when members of party A "are able to explicate information or contingencies not previously available to B, and A can demonstrate the logic of suggested actions with this information" (Eyuboglu & Atac, 1991, p. 198); and (b) because of these asymmetries, party B believes that there is conflict and tension between members of their party and those of party A (Raven & Kruglanski, 1970). As such, in traditional monitoring contexts in which evaluators retain exclusive access to recorded footage—the assumption underlying prior research—informational power asymmetries between evaluators and employees should be reinforced, and employees should perceive that there is conflict and tension between employees as a collective and evaluators. The latter can produce information and make "self-evident" claims that are difficult for employees to refute. But, if we assume that employees have access to footage—a growing reality in some contexts—this perceived power asymmetry should diminish as employees are privy to the same information and can use the greater transparency captured to reconstruct events, assign responsibility, and file or defend claims. Because of this ability to reduce power asymmetries, monitoring with employee access should thus lower employees' perceptions that the employee-evaluator relationship is marked by conflict and misalignment.

Second, by accounting for employee access and this consequent decrease in perceived conflict between the two parties, we can paint a more optimistic view of monitoring's ultimate effects on employee effectiveness. That is, prior research assumed that because monitoring violates employees' fundamental needs for self-determination, it should reduce employee effectiveness in the long run as employees resent and rebel against the loss of control (Bernstein, 2017; Sewell & Barker, 2006; Shaw, Dineen, Fang, & Vellella, 2009). That may be true under the traditional assumption that evaluators have exclusive access to captured footage; the reinforced goal misalignment between employees and evaluators produced by information asymmetries only works to exacerbate the negative effects of lower autonomy on employee effectiveness. However, by acknowledging that employee access may reduce information power asymmetries between employees and evaluators, we open doors to the possibility that the lower perceived conflict between the two parties may actually weaken the negative effects that lower autonomy would otherwise have on employee effectiveness.

We tested these hypotheses across three studies in the law enforcement context—a context we chose because it has been a trailblazer (and exemplar to other institutions seeking transparency) in rapidly transitioning from exclusive evaluator access to multi-party access that includes employees. One of the reasons why law enforcement has been a trailblazer is because high-profile police shootings portrayed in the media were increasing police officers' perceptions that there was deep conflict and tension between members of their profession and key evaluators (Morin, Parker, Stepler, & Mercer, 2017). In this vein, body worn cameras (BWCs), consistent with our use of information power theories, had the potential to reduce perceived information asymmetries between police officers and these critics by providing officers with a tool to capture “objective” footage of incidents. In Study 1, a quasi-field experiment of BWCs in which supervisors and officers had access to footage, we demonstrate that these devices simultaneously reduced officers' perceived job autonomy *and* perceived conflict between officers and evaluators. In Study 2a, which involved independent expert ratings of officers' body camera footage, we demonstrate that employees' perceived conflict between officers and evaluators reduced the negative effect of lower

autonomy on employee effectiveness. We replicate this interaction in Study 2b, which consisted of time-lagged, multi-agency self-report data from patrol officers.

By revisiting prior assumptions regarding access to monitoring footage, and integrating informational power theories to the study of monitoring, we make three important theoretical contributions. First, we demonstrate that accounting for employee access can shed light on how monitoring not only impacts employees' perceived autonomy and discretion they have to conduct their work tasks (a "task" cognition), but also their perceived conflict and alignment between employees and evaluators (a "relational" cognition). As "combinational" perspectives in the management sciences would suggest (Fiedler, 1967; Katz & Kahn, 1978; Meyer, Tsui, & Hinings, 1993), examining the impact of organizational structures like monitoring on both employees' task and relational contexts enables us to more broadly capture the complex consequences of monitoring on organizational life. Second, by accounting for employee access, we demonstrate how monitoring can shape employees' task and relational cognitions in opposing ways, ultimately painting monitoring in a different light compared to prior research. More specifically, we provide evidence for how the psychological consequences of monitoring interact in ways that reduce what would otherwise be detrimental effects on employee effectiveness. By providing such evidence, we further disentangle the psychological mechanisms—autonomy and conflict—that may explain why emerging research on multi-party access technologies such as BWCs is finding null effects on behavior (e.g., see the largest scale and most recent study of BWCs among 2,224 police officers, Yokum, Ravishankar, & Coppock, 2018). Finally, by shedding light on the simultaneous and opposing effects of monitoring on employees' perceived autonomy and conflict between employees and evaluators, we provide critical insights into how organizations can use these psychological mechanisms as "levers" to offset the typical downsides of implementing monitoring technologies. By doing so, we answer calls by researchers to examine how the coercive and enabling forces of monitoring can be better managed (e.g., Cardinal, Kreutzer, & Miller, 2017), which is particularly crucial in contexts like law enforcement in which employees deal with human life.

THEORY AND HYPOTHESES

Since the heyday of scientific management theories, monitoring has been considered a legitimate means of controlling employees' behaviors, ensuring that they serve managerial interests (Taylor, 1911). In today's organizations, technological advances have replaced the naked eye, making it easier for supervisors and other evaluators to monitor employees in ways that were once thought impossible. For example, evaluators can now observe employees' behaviors through closed-circuit security cameras in airports (Anteby & Chan, 2018), floor cameras in manufacturing plants (Bernstein, 2012), RFID technologies in garment plants (Ranganathan & Benson, 2017), automated reporting among prescription suppliers (Simeone & Holland, 2006), electronic on-board recorders in trucks (Blader et al., 2017), and audio recorders in call centers (Batt & Colvin, 2011; Bhave, 2014).

Prior Research on Monitoring and Autonomy

Because of the prevalence of monitoring, organizational psychologists have dedicated much research to examining the psychological consequences of being observed. One of the most robust and oft-cited findings to come from this research is that “monitoring reduces perceptions of job autonomy” (Shaw et al., 2009, p. 1019), or the belief that one has the freedom and discretion to conduct their job duties as seen fit (Hackman & Oldham, 1980). Essentially, by making employees' behaviors more transparent, observation decreases the privacy of employees (Aiello & Shao, 1993; Alge, 2001)—and “without privacy, one's personal freedom is, at best, restricted, since the source of free choice, one's autonomy, is not safeguarded” (Werhane, 1985, p. 119). When under observation, employees constantly worry that they may be doing something that will cause disapproval and scrutiny (George & Zhou, 2001; Zhou, 2003), and are thus always on the lookout for ways to avoid negative evaluation and blame (Lee, Edmondson, Thomke, & Worline, 2004). This constant pressure to submit to the will of evaluators triggers a sense that employees are being externally controlled and cannot work according to their own desires and how they see fit (Bell & Staw, 1989; Kolb & Aiello, 1996). Such consequences are often cited in public debates about employee monitoring in which employee advocates condemn these systems as dehumanizing and a violation of basic rights (see, e.g., the debate concerning the U.S. Senate's 1993 Privacy for Consumers and Workers Act, Alder, 1998).

Because monitoring can “undermine personal freedom and dignity” (Alge, Ballinger, Tangirala, & Oakley, 2006, p. 221), organizational psychologists often cite its negative impact on employee effectiveness, especially when employees are conducting complex tasks (Chalykoff & Kochan, 1989; Griffith, 1993; Smith, Carayon, Sanders, Lim, & LeGrande, 1992)¹. As long observed, managerial behaviors like monitoring that limit freedom and personal control often elicit “psychological reactance” (Brehm, 1972), or resistance and rebellion spurred by deep resentment of the violation of fundamental needs for self-determination (Alder, 1998; Deci, 1975). As noted by Niehoff and Moorman (1993, p. 530), such reactance in organizations “could take the form of poor job attitudes, minimum levels of effort, or both,” all of which undermine multiple dimensions of employee effectiveness. For example, Batt (2002) demonstrated that monitoring has negative spillover effects on employee customer service and customer satisfaction, and Shaw et al. (1998) demonstrated how the monitoring of truck drivers can trigger resignation, even among good performers. Additionally, Alge and colleagues (2006) found that monitoring was related to poorer effectiveness in solving customer problems; Benner and Tushman (2003) argued that limiting employees’ freedom decreases their motivation to engage in more exploratory, innovative behaviors; and Niehoff and Moorman (1993) found that monitored service employees were less motivated to engage in behaviors that did not lead to immediate rewards. Even in laboratory studies, researchers have found that by diminishing people’s sense of autonomy and control, monitoring reduces participant’s task performance (Stanton & Barnes-Farrell, 1996). In sum, monitoring is generally thought to be ineffective in aligning evaluator and employee interests (Tosi, Katz, & Gomez-Mejia, 1997), inspiring some scholars to refer to the implementation of monitoring as a “battle of wits,” in which

¹ Social psychological research on the “social facilitation effect” (Zajonc, 1965) suggests that observation, or the mere presence of others, can increase performance on “simple,” well-learned tasks by triggering performance-enhancing levels of anxiety. For example, some organizational behavior researchers have found positive effects of monitoring on more simplistic, routine employee behaviors such as hand washing and following scripts (e.g., see Bhave, 2014; Staats, Dai, Hofmann, & Milkman, 2016). However, the opposite is true in “complex,” uncertain tasks in which observation triggers performance-debilitating levels of anxiety (Aiello & Kolb, 1995). Our theorizing pertains to these latter situations in which employees are conducting more complex tasks.

evaluators continuously devise stricter systems in an ultimately fruitless effort to control employees (Bernstein, 2012; Sewell & Barker, 2006).

Moving Beyond Autonomy by Revisiting Prior Assumptions Concerning Access

This being said, some researchers have argued that the implementation of monitoring systems differs, particularly with respect to who is given access to the gathered data (R. Grant & Higgins, 1989). Much of the aforementioned research pointing to the negative effects of monitoring implicitly assumes that supervisors primarily and exclusively retain access to the data these technologies capture and the analyses they enable. For example, in defining electronic performance monitoring, Stanton and Barnes-Farrell (1996, p. 739) note that it involves the “deployment of technology to assist the *supervisor* in observing and recording employee performance” (emphasis added by current authors). This assumption is consistent with traditional perspectives on top-down control in which monitoring is viewed as an “administrative element that corrects and disciplines deviation” (Cardinal et al., 2017). However, due to technological advancements, monitoring systems in some contexts are starting to be implemented in ways that “make information available to others within or outside the organization” (Flyverbom, Leonardi, Stohl, & Stohl, 2016, p. 100). Of note, in some contexts, employees themselves have access to the same footage available to supervisors.

While providing employee access to footage represents a big shift in practice, we hypothesize that it will not reverse the effect on employees’ *task* cognitions observed in prior research, i.e., employees will continue to perceive a lower sense of autonomy. In fact, under the assumption of multi-party access, employees’ perceived autonomy may fall even more because employee behaviors become visible to more evaluators. This higher visibility should increase the sense of evaluative apprehension and pressure to not violate standards of behaviors set by evaluators (Lee et al., 2004; Zhou, 2003). For example, in the law enforcement context, because multiple parties can access BWC footage, these monitoring systems have been shown to reduce officers’ perceived autonomy in deciding how to use force or exert compliance during an encounter, decisions which in the past have been considered a basic empowerment of the occupation (e.g., see Bittner, 1974; Reiss, 1971).

Monitoring and Conflict: An Informational Power Perspective

On the other hand, drawing on classic informational power theories, we hypothesize that while employee access to footage continues to reduce employee autonomy, it should also alter, in a positive way, employees' *relational* cognitions, or how they perceive the general relationship between employees and evaluators. Informational power refers to “any different perspective or knowledge which an influencing agent might impart to a target” (Raven, Schwarzwald, & Koslowsky, 1998). In and of itself, having informational power is neither good nor bad. Distinct knowledge can be used in beneficial ways, but relational problems may arise in relationships when party A has information that party B does not, creating an asymmetry where party A can use that information to influence party B in a way that makes it difficult for the latter to refute or deny (Raven, 1965, 2008).

A similar situation can arise between evaluators and employees in the context of organizational monitoring. When evaluators retain sole-access to recorded footage, employees are likely to perceive informational power asymmetries between themselves and evaluators. Evaluators can use information from the footage to promote their perspective and influence employee behaviors, leaving employees with little means of counter-influencing evaluators (Raven & Kruglanski, 1970). Such informational power asymmetries can, in turn, increase the conflict—defined as the “incompatibility of goals or values” (Böhm, Rusch, & Baron, 2018, p. 4)—that employees perceive between themselves (i.e., employees as a collective) and evaluators. Much of this perceived conflict and tension between the two parties stems from the ability of evaluators to exert their authority using their unique access to information and pursue their self-interest at the expense of employees' (see Holland, Cooper, & Hecker, 2015). It is also this conflict that leads employees to negotiate, sometimes with the help of unions, how the monitoring data can be used—or try to game the system by hiding true behavior from it (e.g., see discussion on the Teamster's contract with UPS, Bernstein, 2017). As Raven and Kruglanski (1970, p. 80) argue, “If the providing of information indicates some superiority on the part of A, there might also be moving away in identification on the part of B.”

More optimistically, we argue that these perceived information asymmetries between employees and evaluators should be reduced when employees are granted access to recorded footage. There are many ways in which employees can use recorded footage to reverse influence evaluators—or even counter them. For instance, employees can “turn the tables” on supervisors, selling issues that are important to them (Dutton, Ashford, O'Neill, & Lawrence, 2001) and making demands using recorded footage (Sewell & Barker, 2006). Doolin (2004, p. 355) describes how physicians used clinical resource-tracking monitoring systems to serve their interests: “They [the monitoring program, casemix systems] open up a new and legitimate discursive space for action within which doctors may appropriate and manipulate the information and rhetoric of casemix systems, diverting disciplinary practices to their own ends of using the reality constructed and made visible by the casemix information system to demand more resources.” Employees can also use the greater transparency in the recorded footage to defend themselves against accusations of misconduct (Mason, Button, Lankshear, Coates, & Sharrock, 2002). This is evident in law enforcement as a retired police officer notes: “[BWCs are] especially handy when a citizen accuses a cop of misconduct. Most of the BWC output in these cases vindicates the cops” (Dees, 2017). Finally, employee access to recorded footage can bring other people’s behavior—particularly those who have the power to harm employees’ reputation—under control. For instance, physician access to cameras in emergency rooms can enable them to “reduce spurious malpractice claims, as well as violence [against them]” (Millard, 2015). Similarly, teacher access to classroom recordings in public schools can “assist teachers in reducing persistent low-level disturbances and resolving conflict by capturing evidence of misbehavior” (Weale, 2017).

Drawing on these informational power theories (Raven & Kruglanski, 1970) and the examples above, we suggest that these capabilities that employees are afforded vis-à-vis monitoring technologies should decrease the conflict they perceive between employees as a collective and evaluators. Essentially, employee access reduces the asymmetric influence that evaluators could otherwise have had if they retained exclusive access to recorded footage. Among other things, access provides employees with a “protective force” when they perceive their interests are not being taken into account. This “leveling” of

informational power should, in turn, make evaluators less “threatening” in the eyes of employees. As psychologists have long demonstrated, when people feel less threatened or anxious about interacting with members of an outgroup, their sense of conflict and adoption of “us” versus “them” mindsets are significantly reduced (Ho & Jackson, 2001; Islam & Hewstone, 1993; Stephan & Stephan, 1985). For example, in a study of Italian hospital workers, it was found that reducing intergroup anxiety, or the anticipation of negative consequences from interacting with an outgroup member, led to positive attitudes toward ethnic coworkers and lower perceived conflict between the two groups (Voci & Hewstone, 2003). In their qualitative study, Button, Mason, and Sharrock (2003) observed analogous effects between employees and evaluators when employees were given access to monitoring footage in the print industry. They note that there was “collaboration between operators, administrative staff and local managers. They [employee responses] *did not* testify to a divide between operators and shop-floor managers” (p. 60, emphases added by current authors). In sum, given that monitoring systems with employee access have the potential to reduce perceived information asymmetries, we advance the following hypothesis about the dual psychological impacts of monitoring:

Hypothesis 1: The implementation of monitoring systems with employee access reduces employees’ perceived task autonomy and perceived conflict between employees and evaluators.

The Interactive Effects of Autonomy and Conflict on Employee Effectiveness

We further argue that the lower level of conflict employees perceive between employees and evaluators should weaken the negative effects that lower autonomy would have otherwise had on employee effectiveness. That is, as we described above, lower autonomy tends to trigger psychological reactance among employees, reflected in lower employee effort and other withdrawal behaviors (Batt, 2002; Shaw et al., 2009). We predict that this psychological reactance, and consequent drop in employee effectiveness, is worsened when employees are also interacting with evaluators with whom employees think they, as a collective, are in conflict. When people perceive that there is conflict and tension between two parties, they tend to feel anxiety and fear over how to manage impressions and interact with the outgroup in ways that maintain a positive image (Surra & Longstreth, 1990; Walton & Dutton, 1969), all

of which distract employees from their core tasks, shifting their attention instead to addressing and resolving the source of conflict (Jehn, 1995). Ultimately, this perceived conflict makes the lower autonomy, which precludes employees from flexibly responding to evaluators who do not see eye-to-eye with them, even more frustrating and stressful, reducing employee effectiveness.

However, when expectations between the two parties are perceived as more aligned, low autonomy should not stifle employees' effectiveness to the same degree. Under these conditions, although employees have low degrees of flexibility and discretion, they are not confronting evaluators who are perceived as value-clashing and potentially antagonistic towards employees. As such, while a low level of autonomy may be stressful and distracting, the power of these effects to dampen employee effectiveness should be significantly lessened. Employees who perceive lower conflict between their ingroup and outgroups are inherently less susceptible to developing the stress and discomfort, and the sense of distraction, that generally come with having to deal with people who cause tension (Boulding, 1963), and this should mitigate the negative impacts of low autonomy. Furthermore, employees who perceive low conflict between the two parties may see low autonomy as "business as normal," especially in high-reliability public safety contexts in which formalizing and standardizing practices and routines that may limit employee autonomy are believed to stabilize decision making and performance (Bigley & Roberts, 2001; March & Simon, 1958; Weick, Sutcliffe, & Obstfeld, 1999). In effect, when employees perceive lower conflict between themselves and evaluators, the sense of lower autonomy is not likely to trigger as strong of a psychological reactance or drops in performance; goals and values between the two parties are perceived to be aligned, so the stress and anxiety from having lower levels of autonomy is not as potent.

Hypothesis 2: Low perceived autonomy and low perceived conflict between employees and evaluators interact to shape employee effectiveness such that high perceived conflict exacerbates, and low perceived conflict attenuates, the negative relationship between low autonomy and effectiveness.

OVERVIEW OF STUDIES

We report the results from three studies in the law enforcement context. In the past three to four years, 95% of U.S. large law enforcement agencies have either committed to or already implemented BWCs (Manger, Stephens, Youngblood, & Ferrence, 2015). As we elaborate below, police BWCs typically allow multiple parties including employees to access the data, and therefore the law enforcement context fell within the bounds of our theorizing. In fact, due in part to employee access, the majority (66%) of U.S. police officers actively support their implementation (see Pew Research Center study, Morin et al., 2017). Furthermore, our application of information power theories was particularly relevant in this context as the implementation of BWCs with employee access had the most potential to reduce perceived information asymmetries between employees and evaluators during a time in which issues of police use of force were receiving nationwide media attention. In Study 1, we use a quasi-experiment design to test the effects of BWCs on employees' perceived autonomy and perceived conflict between employees and evaluators (Hypothesis 1). In Studies 2a and 2b, we test Hypothesis 2, which links the psychological mechanisms—autonomy and conflict—to officer effectiveness captured vis-à-vis third-party and self-report ratings, respectively.

STUDY 1

Context, Methods, and Procedures

As with many jurisdictions around the world, as public calls for BWCs intensified, our state (left unidentified to preserve the anonymity of the agency) passed rules and regulations—in this case, fairly typical rules—about their implementation, use, and data access. These rules were prompted, in part, by a joint study by the Police Executive Research Forum (PERF) and the DOJ's Office of Community Policing Services (COPS), which concluded that officers should be permitted to review video footage prior to and after making formal statements about incidents. Thus, after BWCs were deployed in our state, supervisors and their officers (employees) were both explicitly allowed access to the footage at any point following a recorded incident².

² Our state was also typical in that the rules specified that BWCs had to be turned on during the standard circumstances in which detention, arrests, or use of force were likely, but they were allowed to be turned off (subject

Our study utilized a quasi-field experiment methodology (Campbell & Stanley, 1966)—a design that “offers many of the benefits of the true field experiment for strengthening causal inference in settings with high external validity while relaxing the requirements for experimenter control over random assignment to treatment conditions” (A. M. Grant & Wall, 2009, pp. 654-655). The agency had received a state grant to outfit their operational officers with BWCs and decided to stagger their deployment, prioritizing patrol officers with fewer years on the job. Taking advantage of the staggered rollout, we denoted the first 75 officers who were to receive the BWCs as the “experimental group,” and the 78 officers who were to receive the BWCs later, pending the approval of an additional federal grant, as the “control” group (i.e., officers in this group did not receive the BWCs during the entire time period in which this study was conducted). These two groups consisted of officers at the rank of “Officer” or “Corporal” (i.e., they did not include the ranks of “Sergeant” or above), and were each surveyed twice: at Time 1, two weeks prior to the implementation of the BWCs for the experimental group, and at Time 2, three months after the implementation of the BWCs. Due to restrictions imposed by the police union, the agency could not mandate study participation. Additionally, in accord with state regulations, we were unable to offer monetary incentives for participation.

Despite these limitations, at Time 1, we received survey responses from 45/75 officers in the experimental group (60%) and 50/78 officers in the control group (64%). Subsequently, when the officers who participated at Time 1 were surveyed again at Time 2, we received responses from 35/45 officers in the experimental group (78%) and 36/50 officers in the control group (72%)³. Thus, our final sample size was 71 [$n = 35$ in the experimental group (47% response rate); $n = 36$ in the control group (46% response rate)], which reflected response rates that are typical of organizational field research (Baruch & Holtom,

to filing documentation explaining why the cameras were not activated) when officers were interacting with confidential informants or victims who requested privacy.

³ We followed the recommendations outlined by Rogelberg and Stanton (2007) to test for potential nonresponse bias between Time 1 and Time 2. In each group, a one-way ANOVA revealed no significant differences between those who did and did not respond for the dependent variables (perceived autonomy and perceived conflict with the public, all p 's > .10) and control variables described in more detail below (rank, organizational tenure, gender, perceived legitimacy of BWCs, job satisfaction, self-efficacy, all p 's > .10).

2008). We used the statistical tool, *G*power*, to ensure that our total sample size of 71 was sufficient to achieve a power of .95 in a within-subject, repeated measures design (with 2 groups and 2 repetitions), assuming a medium effect size (i.e., partial eta squared of .06). Analysis revealed that we would need a total sample of 54, which our sample exceeded.

Measurements

Unless otherwise noted, all measures were on a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*.

Perceived task autonomy. At Time 1 and Time 2, perceived autonomy was measured using the relevant 3-item scale from Spreitzer (1996) (e.g., I have significant autonomy in determining how I do my work) ($\alpha_{T1} = .88$, $\alpha_{T2} = .90$).

Perceived conflict between employees and evaluators. We measured employees' perceived conflict between employees and evaluators, specifically with respect to the *general public* for two reasons. First, consistent with our focus on critical evaluators, law enforcement officers are, as public servants, accountable to the general public. Because of this accountability, the general public can be highly influential evaluators by, for example, filing complaints and lawsuits and organizing protests. Second, from an informational power perspective, we believed that the implementation of BWCs had the greatest potential to reduce perceived asymmetries between law enforcement as a whole and the public, and thereby according to our hypothesis, reduce officers' perceived conflict between the two parties. The data was collected during a time in which viral videos of police officer-citizen interactions were being shot by bystanders' smartphones and circulated on mass media. As such, we believed that the introduction of BWCs would, consistent with our theorizing, reduce perceived information asymmetries by providing officers with a tool to capture "objective" information.

At Time 1 and Time 2, we measured perceived conflict between law enforcement and the public—defined as the "incompatibility of goals or values" (Böhm et al., 2018, p. 4)—using a related, 3-item scale on perceived conflict between cultural groups from Chua (2013). The items began with the stem, "Recent events in the media have brought nation-wide attention to the issues of law enforcement

and public protection. Please indicate your agreement with the following items,”⁴ and continued with: “As I hear more about these stories, I see many differences in the values and ideas espoused by law enforcement and that of the general public;” “The more I hear about these stories, the more I see tension between law enforcement and the general public;” “Judging from the recent news stories, there is a limit to how far law enforcement and the general public can understand each other” ($\alpha_{T1} = .78$, $\alpha_{T2} = .77$).

Manipulation check. As our theorizing on the effects of monitoring rested on the assumption that multiple parties including employees had access to the data, we included a “manipulation check” among those in the experimental group (i.e., those receiving the BWCs) for which they rated the degree to which they believed BWCs “Increased the ability of police officers to defend themselves against false accusations.” They received this question at both time periods, T1 and T2.

Controls. Consistent with guidelines for quasi-field experiments (A. M. Grant & Wall, 2009), we controlled for possible demographic differences between the experimental and control groups. In our study, these differences included officer rank (officer or corporal), tenure in the organization (in years), and gender (male or female). We also controlled for three other variables that we believed could affect our dependent variables. The first was the officers’ perceived legitimacy of the BWCs. Because previous research suggests that attitudes toward the monitoring devices could spill over onto employees’ attitudes toward their work (Niehoff & Moorman, 1993), we wanted to examine whether our hypotheses held

⁴ In line with our use of information asymmetry theories, we constructed this stem to intentionally prime the law enforcement-general public relationship when participants were responding. Our theorizing and hypotheses concerned officers’ perceived relationship between law enforcement as a *collective* and the general public (as opposed to the individual experiences of police officers with members of the public). Informal qualitative data collected as part of Study 2b—and reported in the Supplemental Materials—indicated that when discussing the advantages and disadvantages of BWCs, police officers were thinking about law enforcement and citizens as holistic groups, as opposed to individual, interpersonal experiences, suggesting that this relational level would be the most appropriate on which to focus. In this regard, specific reference to the media helped us to prime participants to think about the *relationship* between these two parties at a more holistic level. As the Pew Research Center “Behind the Badge” (2017) survey found, police officers reported that the high-profile incidents covered in the media were highly influential in changing how officers perceived their jobs and various involved parties. Specifically, the majority of police officers noted that high-profile police shootings portrayed in the media were increasing perceptions that the relationship between members of their profession and the public-at-large was tense (Morin et al., 2017). Drawing on these findings, we believed that using the media prompt would encourage officers to think about the two parties more holistically, particularly with respect to the information asymmetries between the groups when police shootings were being debated and portrayed in the media.

regardless of officers' attitudes toward the devices. We adapted a 5-item legitimacy scale from Tyler and Blader (2005) to measure officers' perceived legitimacy of the BWCs. Items began with the stem, "In my opinion, police officers across the U.S. should..." and continued with sample items, "When it occurs, accept the decision to implement BWCs in their jurisdiction" and "Publicly support BWC initiatives" ($\alpha = .77$). Additionally, we controlled for officers' job satisfaction, given its prominent role in shaping employees' work attitudes (Judge, Thoresen, Bono, & Patton, 2001; Tett & Meyer, 1993). We used the three-item scale from Withey and Cooper (1989) (e.g., "All in all, I like working in this job") ($\alpha = .88$). Finally, we controlled for employees' self-efficacy, or confidence in their abilities to do their job, given that this variable also tends to affect work perceptions (Judge & Bono, 2001). We used the three-item self-efficacy scale from Spreitzer (1995) (e.g., "I am confident about my ability to do my job") ($\alpha = .93$). We report our results without and with these controls.

Results

The means and standard deviations of all variables pre- and post- the implementation of the BWCs for the experimental and control groups are in Table 1 and correlations are in Table 2. As noted above, we included an indirect manipulation check to test our underlying assumption that officers could access BWC footage. The mean response to our question about access was very high prior to implementation ($M = 6.09$) and did not statistically change three months after implementation ($M = 6.00$). These numbers suggest that, as a whole, officers who were getting the BWCs believed that they had access to BWC footage and could use it to defend themselves, which aligns with our assumption that employees had access to footage.

To test Hypothesis 1, that monitoring with employee access reduces officers' perceived autonomy and perceived conflict between employees and evaluators, we ran a repeated measures

ANOVA/ANCOVA⁵. The results were significant for autonomy without ($F(1,69) = 4.32, p = .02, \eta^2$

⁵ When assignment to groups is non-random (as in our study), repeated measure tests are often preferred over regression analyses using pre-test measures as a covariate; in contrast to the latter, the former inherently accounts for differences in pre-test measures/baselines and thus produces less biased results (Baguley, 2012; Jamieson, 2004; Van Breukelen, 2006).

partial = .08) and with ($F(1,60) = 8.78, p = .00, \eta^2 \text{ partial} = .13$) controls. As the simple effects analysis in Figure 1 indicates, whereas officers who were outfitted with BWCs experienced a reduced sense of autonomy three months after implementation ($F(1,70) = 7.57, p < .01, d = .54$), the control group experienced no change ($F(1,70) = .45, \text{n.s.}$).

The repeated measures ANOVA/ANCOVA for officers' perception of conflict between law enforcement and the public was also significant without ($F(1,67) = 4.32, p < .05, \eta^2 \text{ partial} = .06$) and with ($F(1,58) = 4.52, p < .05, \eta^2 \text{ partial} = .07$) controls. (Note that the difference in degrees of freedom is due to two officers' lack of response to the perceived conflict questions). As also shown in Figure 1, officers who were outfitted with BWCs experienced a reduced sense of conflict with the public three months after implementation ($F(1,68) = 4.19, p < .05, d = .40$), compared with the control group, which experienced no change ($F(1,68) = .75, \text{n.s.}$). Thus, Hypothesis 1 was fully supported.

Study 1 Discussion

Using a quasi-experiment of one of the most highly publicized monitoring technologies—police officer BWCs—we demonstrate that the psychological effects of monitoring are more complex than what previous research has acknowledged if we assume that employees, not only evaluators, also have access to recorded footage. By enabling this employee access, we found that BWCs reduce employees' sense of autonomy, consistent with prior work, but also simultaneously reduced employees' perceived conflict between law enforcement and the general public, a consequence that has fallen under the radar due to the set of assumptions that prior researchers have made about access. In effect, our study provides evidence that monitoring can exert both negative and positive psychological effects on employees. To test how these psychological mechanisms—autonomy and conflict—in turn shape employee effectiveness, we conducted two additional studies.

STUDIES 2A AND 2B

We tested Hypothesis 2, the interactive effects of perceived autonomy and perceived conflict between employees and evaluators on employee effectiveness, across two field studies of law enforcement officers whose agencies had already implemented BWCs. Study 2a utilizes independent

expert ratings of the body camera footage of officers across 2 U.S. agencies. Study 2b replicates Study 2a among officers across another set of 5 U.S. agencies using a different source of ratings: time-lagged self-report.

Method and Procedures

In Study 2a, we surveyed officers in two U.S. agencies (one was in the southeast U.S. and the other was in the Midwest), measuring their perceived autonomy and perceived conflict between law enforcement and the general public (the latter focus on the general public as the focal evaluator was chosen to be consistent with Study 1). The response rate across the two agencies was 60% (164/273), and the sample consisted of White/Caucasian (87%), male (86%) officers at the rank of officer/deputy (the lowest rank) (73%), with an average tenure of 9.34 years. Officers were given \$10 Amazon e-gift cards in exchange for their participation. After collecting this data, the two respective agencies sent us five randomly selected BWC videos for each of the participating officers (a total of 820 videos). In compliance with state/agency policies regarding ongoing investigations, this footage only consisted of “non-events”—such as building searches, jail transports, and traffic stops—in which lethal force was not used, and for which there were no pending trials or internal affairs investigations. These videos, which ranged from approximately 2 to 75 minutes, were stripped of any identifying information such as officer names and rated by two independent expert raters who we recruited from an unaffiliated agency. Both raters had retired as Division Commanders and had extensive law enforcement experience, which included lengthy tenures patrolling and investigating complaints and use-of-force incidents in their internal affairs department. Training consisted of 3 rounds, in which raters rated 30 videos and then discussed to resolve discrepancies. During this process, some videos were deleted due to technical issues that made the videos difficult to rate (e.g., no sound, blurry images), yielding a pool of 794 videos such that each officer was linked to at least 3 videos. The raters were each compensated \$5,000 for their time.

In Study 2b, we surveyed law enforcement officers at five agencies in the U.S (four were in the south-central U.S. and one was in the Midwest). At Time 1, officers received a survey that measured the degree to which they perceived they had autonomy and perceived conflict between law enforcement and

the public⁶. At Time 2, six months later, they were sent another survey asking them to self-rate their effectiveness. A 6-month lag was chosen because it has been shown to reduce common method/common source bias (i.e., inflated correlations due to the collection of data from the same source at the same time period) (Baer et al., 2015; Doty & Glick, 1998; Ostroff, Kinicki, & Clark, 2002). After accounting for listwise deletion, the total response rate across agencies was 168/212 (79% response rate). The final sample of 168 officers was majority male (83%), White/Caucasian (81%), and at the rank of Deputy or Detective (81%), with an average organizational tenure of 9.11 years. All participants were offered \$10 Amazon gift cards at each time point because there were no state regulations that prohibited us from doing so (as there were in Study 1).

Measures

Unless otherwise noted, all measures were on a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*.

Perceived autonomy. In Studies 2a and 2b (Time 1), perceived autonomy was measured using the same 3-item scale used in Study 1 from Spreitzer (1996) ($\alpha = .88$, $\alpha = .91$). We reverse coded this scale such that higher numbers reflected *lower* perceived autonomy.

Perceived conflict between law enforcement and the public. In Studies 2a and 2b (Time 1), perceived conflict between law enforcement and the public was measured using the same 3-item scale used in Study 1, adapted from Chua (2013) ($\alpha = .74$, $\alpha = .72$).

Officer effectiveness. There are, of course, many ways to measure officer “effectiveness” or “performance.” As such, we used three different measures across the two studies to capture various aspects of effectiveness in the law enforcement profession.

In general, researchers conceptualize employee performance as “effectiveness...of contributing to organizational objectives” (A. M. Grant, 2008, p. 109). To this end, we deployed two measures of

⁶ To get more informal, qualitative insights into the psychological effects of body worn cameras (i.e., Hypothesis 1), we also asked officers open-ended questions about the advantages and disadvantages of these monitoring devices. We display these results in the Supplemental Materials.

effectiveness in Study 2a that reflected broader organizational objectives across U.S. law enforcement agencies during the time of the study. One of these objectives was to “repair” the relationship between police officers and citizens following a series of high-profile incidents in which officers were being accused of misconduct, racism, and/or general incivility towards citizens. For this reason, there was particular interest among criminal justice scholars to study the impact of BWCs on *everyday* police-citizen encounters (i.e., not just the ones involving use of force) (e.g., see McCluskey et al., 2017). In this vein, we worked with the expert raters to create a scale that closely reflected effectiveness in daily officer-citizen interactions (or “interpersonal effectiveness”). After several iterations, we finalized a 3-item, 5-point scale beginning with the stem, “This officer...” and continuing with the items: (a) interacted with citizens in a professional manner; (b) showed concern for the immediate security of citizens/property; and (c) proactively showed concern for the future security of citizens/property ($\alpha = .91$).

The second (related) objective we captured in Study 2a was officer behaviors in improving the law enforcement image more broadly with the citizenry they serve (or “public image effectiveness”). Mass public policy surveys had indicated that the majority of the public during the time of the study believed that police encounters, especially with African Americans, reported in the media were emblematic of a systemic problem with the law enforcement profession (Morin et al., 2017). In response, the majority of the officers at large departments surveyed also indicated that the department was taking steps to improve the relationship between police officers and community members, particularly minorities. Again, working with the expert raters, we developed a 3-item, 5-point scale beginning with the stem, “This officer...” and continuing with the items: (a) upheld the value of justice that law enforcement officers (“LEO”) stand for; (b) contributed to a positive image of LEO; and (c) tried to reduce cynical attitudes toward LEOs ($\alpha = .86$). A test of interrater reliability resulted in an ICC(3) of .61 for the first scale and .59 for the second, both of which constitute a moderate level of agreement (LeBreton & Senter, 2008).

In Study 2b (Time 2), we used a 4-item, 7-point core job task measure (“task effectiveness”) from Parker, Johnson, Collins, and Nguyen (2013) (e.g., “I perform the tasks that are expected as part of my

job;” “I meet performance expectations”) ($\alpha = .93$). We believe that these three measures across the two studies—interpersonal effectiveness, public image effectiveness, and task effectiveness—enabled us to capture a broader set of performance measures that reflect typical law enforcement agency objectives.

Controls. Consistent with Study 1, across both studies we controlled for officer rank (officer or senior), organizational tenure (in years), and gender (male or female). As job satisfaction is one of the strongest predictors of effectiveness (e.g., Judge et al., 2001), we also controlled for this variable using the same 3-item scale from Withey and Cooper (1989) ($\alpha = .88$, $\alpha = .90$). Finally, we controlled for the agency in both studies, dummy coded as “agency1,” “agency2,” etc. We report our results without and with these controls.

Results

Means, standard deviations, and correlations of all variables for Studies 2a and 2b are displayed in Tables 3 and 4, respectively. To test Hypothesis 2 in Study 2a, we ran a PROCESS Model 1 algorithm with mean-centered variables (Hayes, 2018). For interpersonal effectiveness, the interactive effects were significant without ($\beta = -.03$, $SE = .01$, $t = -3.01$, $p < .01$) and with ($\beta = -.03$, $SE = .01$, $t = -2.96$, $p < .01$) controls, as displayed in Tables 5a and 5b, respectively. For public image effectiveness, the interactive effects were also significant without ($\beta = -.03$, $SE = .01$, $t = -2.72$, $p < .01$) and with ($\beta = -.03$, $SE = .01$, $t = -2.82$, $p < .01$) controls, as displayed in Tables 6a and 6b, respectively.

To interpret the interactions, we plotted simple slopes in Figure 2 (Aiken & West, 1991). As can be seen here, low autonomy was negatively related to ratings of interpersonal effectiveness when perceived conflict between law enforcement and the public was high (+1 SD) (simple effect = $-.04$, $SE = .02$, $t = -2.59$, $p = .01$), but this effect was reduced when perceived conflict was low (-1 SD) (simple effect = $.03$, $SE = .02$, $t = 1.62$, *n.s.*). Similar patterns emerged for public image effectiveness, also displayed in Figure 2. Low autonomy was negatively related to ratings of public image effectiveness when perceived conflict between law enforcement and the public was high (+1 SD) (simple effect = $-.04$, $SE = .02$, $t = -2.48$, $p = .01$), but this effect was reduced when perceived conflict was low (-1 SD) (simple effect = $.03$, $SE = .02$, $t = 1.69$, *n.s.*). Thus, Hypothesis 2 was fully supported.

To retest Hypothesis 2 in Study 2b, we similarly ran a PROCESS Model 1 algorithm with mean-centered variables. As displayed in Tables 7a and 7b, respectively, the interactive effects on task effectiveness were marginally significant without controls ($\beta = -.11$, $SE = .05$, $t = -1.94$, $p = .05$), and they remained marginally significant when controls were added ($\beta = -.10$, $SE = .05$, $t = -1.87$, $p = .06$). Although the interactions themselves were marginally significant, we proceeded to plot the simple slopes⁷. A test of the simple slopes revealed that there were indeed significant (and not significant) slopes in the hypothesized directions. As can be seen in Figure 3, low perceived autonomy was negatively related to self-reported task effectiveness when perceived conflict between law enforcement and the public was high (+1 SD) (simple effect = $-.25$, $SE = .09$, $t = -2.94$, $p < .01$), but not when conflict was perceived as low (-1 SD) (simple effect = $-.00$, $SE = .10$, $t = -.02$, *n.s.*). The pattern of significance for these simple slopes remained unchanged when controls were added. Thus, using another source of ratings, self-report of task effectiveness, Study 2b offered additional support for Hypothesis 2.

Study 2 Discussion

Study 2 completed the test of our theoretical model, examining how perceived autonomy and perceived conflict between evaluators and employees, triggered by the implementation of multi-party access monitoring in Study 1, interacted to shape employee effectiveness. Using multiple sources of ratings and different measures of effectiveness, we demonstrated that low perceived conflict between the two parties weakened the negative effects that low autonomy otherwise have had on employee effectiveness.

GENERAL DISCUSSION

⁷ Researchers such as Preacher, Curran, and Bauer (2006) have argued that testing simple slopes can provide more powerful insights than testing the interaction term alone. For example, Robinson et al. (2013: 17) argue that: “(1) the use of the simple slopes models alone provides more information to the researcher than testing the interaction term first; (2) testing for the difference in the simple slopes has more statistical power than the test for the interaction term by reducing the threat of Type II error; and (3) testing the significance of the difference in simple slopes does not increase Type I error.” For similar management studies in which the regression coefficient of the interaction was not significant, but the simple slopes plot revealed significant slopes in the hypothesized directions, please see Dineen, Lewicki, and Tomlinson (2006), Leana, Appelbaum, and Shevchuk (2009), and Shaw et al. (2011). In these aforementioned papers, the simple slopes result was sufficient to demonstrate support of the hypotheses.

We set out in this article to qualify a key assumption in prior work: that monitoring typically debilitates employees' effectiveness by reducing their sense of autonomy. We argued that such conclusions are contingent on who has access to the recorded data. Whereas previous research assumed that supervisors retained sole-access to the data, technological advancements and the proliferation of transparency policies have made it possible for multiple parties, including employees themselves, to also have access at the click of a button. Integrating theories on monitoring and informational power, we argued that the psychological effects of monitoring would be more complex under an assumption of employee access. While monitoring with employee access would continue to reduce employees' perceived job autonomy (a "task" cognition), it could also have a positive effect by reducing employees' perceived conflict between members of their profession and evaluators (a "relational" cognition). With employee access, monitoring systems essentially could reduce perceived information asymmetries between employees and evaluators who yield power over them. A lower sense of perceived conflict, in turn, attenuates the negative effects that reduced autonomy would otherwise have on employee effectiveness. We provided support for these effects across three studies in the law enforcement context. By qualifying previous assumptions of access—and exposing the dual psychological effects of monitoring systems that allow employee access—this paper makes a number of theoretical and practical contributions.

Theoretical Contributions

First, expanding prior work, we demonstrate that monitoring not only affects employees' "task" cognitions (i.e., how they fulfill their job duties), but also their "relational" cognitions (i.e., how they socially connect to organizational constituents). As "combinational" perspectives in management would suggest (e.g., Meyer et al., 1993), by combining both "task" and "relational" cognitions, we paint a more complex picture of how monitoring shapes employees' psychological reactions than what has been portrayed in prior work. Whereas monitoring negatively shapes employees' perceived autonomy, it positively shapes employees' perceived conflict between employees and evaluators. We were able to expose these psychological effects by revisiting prior assumptions regarding the type of access that

monitoring technologies grant. Reflective of how monitoring was typically implemented in organizations, previous scholars have assumed that these technologies were largely top-down, allowing only high-level leadership to view the footage. This is potentially why organizational behavior scholars have maintained a fairly critical stance towards monitoring: the costs to employees' task contexts and sense of autonomy are high. But, when we assume that employees have access, we observe simultaneous positive effects on employees' relational contexts, or more specifically, the degree to which they perceive conflict and tension between themselves and those who hold evaluative power over them.

In addition to exposing the more complex psychological effects of monitoring, drawing this link between monitoring and employees' relational contexts increases our understanding of the number of ways in which employee access can positively impact employee behavior. While other scholars have noted the trend towards employee access to monitoring footage in organizations (e.g., Mann, Nolan, & Wellman, 2003; Sewell & Barker, 2006), the types of consequences examined as a result of employee access have remained narrow, with scholars mainly focusing on task-related ones. For example, previous research has found that employee access can help employees avoid a negative performance evaluation (Mason et al., 2002) or expose suspect behaviors among their supervisors (Button et al., 2003). Our studies extend this research by demonstrating that employee access fundamentally changes how employees perceive the relationship with evaluators. Consistent with informational power theories (Raven & Kruglanski, 1970), we find evidence to suggest that this relational consequence stems from a reduction of perceived asymmetries between the parties. Increasing transparency such that monitoring information previously exclusive to evaluators is accessible to employees reduces the perception that evaluators can act in self-serving ways that exploit employees—and thus attenuates the perceptions that there is goal conflict and misalignment between the two parties. Because such psychological effects can otherwise remain hidden, we encourage future scholars to account for who has access to monitoring footage when examining the impacts of such systems.

Furthermore, our studies not only demonstrate that monitoring systems can have more complex psychological effects on employees' task and relational cognitions, but also that these effects interact in

ways that reduce potential negative effects on employee effectiveness. This finding sheds a more optimistic light on monitoring systems—and perhaps even more importantly—takes a critical step toward understanding *why* emerging work has demonstrated that exemplars of monitoring technologies that allow employee access such as BWCs have no effect on employee behavior. For instance, widely-cited studies on law enforcement BWCs have shown that these devices have no effect on officers' behaviors (Ariel et al., 2016; Yokum et al., 2018). Our studies complement this work by shedding light on possible psychological mechanisms underlying this null effect. These BWCs are in effect reducing officers' perceived autonomy and conflict between themselves and evaluators, thereby reducing potential negative effects on their behavior. A major benefit of unraveling these psychological mechanisms is that it helps us understand how organizations can use these mechanisms as “levers” when implementing monitoring technologies not just in law enforcement, but all types of organizations in which there is potential for perceived goal misalignment and tension among employees and internal evaluators (e.g., supervisors, peers) or external evaluators (e.g., auditors, customers, and the public). As noted by Barley (1986), how organizations implement technologies matters for how they ultimately affect employees. Technologies that are implemented in ways that reduce employee autonomy without offsetting these effects by also reducing their perceived conflict (e.g., by denying employee access to footage) may result in the most problematic consequences. In other words, employees need to be equally affected by both forces, a reduction in autonomy and a reduction in conflict in order to buffer against potential negative effects. We return to this idea of using autonomy and conflict as “levers” in our practical implications section.

Finally, we contribute to the literature on organizational control. In their comprehensive review, Cardinal, Kreutzer, and Miller (2017) observed that scholars in this area have typically focused on the coercive aspects of organizational control following the Weberian conceptualization of bureaucracy that “emphasizes an administrative element that corrects and disciplines deviation, and a rule of order element that is used to achieve goals” (p. 567). However, these authors also point out that: “Although less known, Weber’s focus on goal achievement also introduced a ‘softer’ side to bureaucracy that discussed helping employees reach goals and feeling accomplished” (p. 567; also called “enabling” control in Adler and

Borys (1996)). They further argue that to truly understand overall control dynamics, researchers need to “examine how different controls combine and complement each other rather than serve as substitutes” (p. 571). Our studies answer this call by demonstrating how monitoring technologies that allow employee access exert *both* coercive and enabling control, reducing employees’ perceived autonomy but also decreasing their perceived conflict between themselves and evaluators. Whereas reducing autonomy can be coercive in terms of violating people’s sense of freedom and control, the simultaneous increase in perceived goal alignment can reduce the harm this violation could otherwise trigger.

Future Directions

Our studies additionally open new venues for future research. For one, due to police union restrictions, we were unable to test both the psychological and performance effects in a single study, thus our need to pair studies of each. Because we examined the performance effects of our psychological mechanisms at agencies in which BWCs were already deployed, our follow up studies provide indirect, rather than direct, evidence of the long-term consequences that monitoring with employee access can ultimately have for employee behaviors. While we acknowledge the challenge in finding an organizational context in which our full model (both performance metrics and survey data about employees’ psychological state) could be tested, we nonetheless encourage future scholars to seize that opportunity should it arise.

Second, the broader implications of our study—that monitoring systems may reduce employees’ perceived conflict between themselves and evaluators—necessarily rest on assumptions about the context in which the monitoring is taking place and the nature of the access granted to employees. In this regard, we encourage future scholars to examine the organizational conditions under which our findings may or may not hold. For instance, in some contexts, the characteristics of “evaluators” may represent a boundary condition to our results—e.g., evaluators may be less hierarchical (e.g., peers, reports) such that relational conflict might operate differently; evaluators may be less trustworthy (e.g., in a less regulated or structured context) such that promises of employee access to monitoring data are not seen as credible; or an evaluator could even be oneself (as in the case of monitoring data, like FitBit data, that is primarily

designed for or exclusive to the employee) such that conflict is intrapersonal, between the perceived and monitored versions of self. There may also be scope conditions around the nature of the monitoring data: footage may be less/more prone to judgment such that conflict is less/more likely to matter; privacy laws may require the data to be “forgotten” after a period of time such that the value employees place on access to it changes; and so on. While we chose our site because BWCs epitomize monitoring systems that increasingly give employees access to monitoring data, we nonetheless encourage future scholars to explore the replicability and—conversely—boundary conditions of our results, perhaps starting with contexts like teaching or medicine in which similar technologies are increasingly popular but which do not have the unique characteristics (e.g., high levels of sociopolitical conflict leading to increased scrutiny and polarization) of law enforcement.

Third, our use of different aspect of employee effectiveness—interpersonal, public image, and task—enabled us to capture multiple dimensions of employee performance. However, due to restrictions on the types of videos we could access (i.e., those which were not being used for active investigations), there is an inherent restriction on the types of behaviors we were able to capture. As such, we encourage future scholars to examine the effects of autonomy and conflict on a broader set of behaviors. For example, in law enforcement, there is current debate about the “Ferguson effect,” or the idea that police officers are less proactive as a result of the increased scrutiny and transparency of their behaviors (e.g., Pyrooz, Decker, Wolfe, & Shjarback, 2016; Wallace, White, Gaub, & Todak, 2018; e.g., Wolfe & Nix, 2016). It would be interesting to examine the potential role that the reduction in officer autonomy induced by monitoring plays in this “Ferguson effect”—and the ultimate effects it has on major outcomes such as the use of force. Much ethnographic work on law enforcement suggests that officers need a “gray area” and some leeway in order to help maintain a balance between de-escalation and use of force/confrontation (Manning, 1977; Van Maanen, 1973; Wilson, 1978). Within this gray area, a reduction in autonomy may, on the one hand, shift emphases on de-escalation and avoidance of use of force, ultimately leading to lower false positive shootings of unarmed individuals. But the reduced autonomy may also induce severe risk-aversion, preventing officers from using force when necessary, increasing false negative rates and

putting innocent lives in danger. Because our items were more about basic execution of duties and interpersonal communication, it is unclear from our current data how monitoring's psychological effects influence officer behavior when the use of force potentially becomes an issue (see, Pang & Pavlou, 2016, for a discussion on the complexities of use of force) or whether those effects might reduce false positive and/or false negative errors.

Along similar lines, future research should also address how monitoring systems with employee access affect the broader, long-term relationship between employees and the constituents they serve. For example, in the law enforcement context, there is a growing rift between the “Black” and the “Blue,” or supporters of African Americans and supporters of law enforcement, respectively, which has emerged after heavily publicized police shootings (Hall, Hall, & Perry, 2016; Voigt et al., 2017). Supporters of the “Black” accuse the “Blue” of persistent racial bias, and supporters of the “Blue” accuse the “Black” of being insensitive to the difficulties of ensuring the public's safety. Given these polarizing rifts, it is worth examining the long-term effects of our findings on healing these tensions. That is, we demonstrate that, potentially due to officers' ability to use the body camera footage to protect themselves from accusations of misconduct, those with BWCs perceived lower conflict and misalignment between the “Blue” and the “Black.” But it remains unclear whether these effects are reciprocated by evaluators (e.g., in the form of greater citizen trust in officers) and translated into lower divides between the two parties given a reduction in information asymmetries for both sides.

Practical Implications

As monitoring becomes more widespread, so does the practical importance of reducing the effect it has on employee autonomy and therefore employee effectiveness. How access is distributed appears to be one key lever to do so—a lever that is more about how these systems are implemented than the technology itself. Our studies demonstrate that allowing employees access to captured data to the degree possible—and proactively creating environments in which employees fundamentally *believe* that having access to this data can help employees reconstruct events, assign responsibility, and defend their perspective—can lower perceived conflict between employees and evaluators, thereby counterbalancing

the negative effect of monitoring on autonomy. Practitioners may therefore benefit from disseminating stories about employees who used the footage to demonstrate their side of the story and avoid liability. Our studies also suggest that another way to attenuate potential negative effects from implementing monitoring systems is to directly counteract the reduction in employee autonomy. This may involve, for example, actively involving employees in determining the rules and procedures regarding access, such as who would access the data and for what purposes, or, even more simply, for how long and where data should be stored. These “smaller” fixes may go a long way in reducing employees’ inherent tendencies toward experiencing lower autonomy as a result of monitoring devices.

CONCLUSION

For both substantive and symbolic reasons, organizations are implementing monitoring technologies at a fast rate. Using data from a highly publicized and consequential context—law enforcement—we took the first step in highlighting the importance of accounting for who has access to footage in determining how monitoring systems will ultimately impact employee behaviors. Allowing employee access to footage can yield more complex (and positive) psychological effects on employees, reducing their perceived autonomy while also reducing their perceptions of conflict between themselves and evaluators. Organizations can leverage these effects, ensuring that employees indeed understand that they have open access to footage and can use it in multiple ways to protect their interests. Taking such steps can reduce power asymmetries—and thereby potentially mitigate negative effects that implementing monitoring technologies may otherwise have on employee behavior.

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Table 1: Study 1 Means and Standard Deviations across Conditions

| | Experimental Group | | Control Group | |
|---|----------------------------|----------------|-----------------|----------------|
| | Pre-BWCs | Post-BWCs | Pre-BWCs | Post-BWCs |
| Perceived autonomy | 5.61 [†] (.81) | 5.10 (1.07) | 5.19 (1.00) | 5.31 (1.14) |
| Perceived conflict between law enforcement and the public | 5.34 (1.14) | 4.90 (1.30) | 5.11 (1.35) | 5.26 (1.15) |
| Perceived legitimacy of BWCs | 5.11 (.87) | --- | 5.27 (.83) | --- |
| Job satisfaction | 5.72 (1.11) | --- | 5.31 (.98) | --- |
| Self-efficacy | 6.16 (.97) | --- | 6.06 (.94) | --- |
| Rank_Officer | 1.00*** (.00) | | .53 (.51) | |
| Organizational tenure | 3.86*** (1.81) | | 11.51 (5.80) | |
| Gender_Male | .97*** (.17) | | .77 (.43) | |

$N = 71$; standard deviations are in parentheses. Difference between Pre-BWC experimental and control conditions ([†] $p < .10$, *** $p < .001$).

Differences in organizational tenure (in years) due to presence of corporals in control condition. Rank_Officer = 1 for 'Officer' or 0 for 'Corporal.'

Gender_Male = 1 for 'male' 0 for 'female.' "BWCs" = body worn cameras.

Table 2: Study 1 Correlation Table

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--|--------|-------|-------|--------|-------|---------|-------|-----|
| 1. Perceived autonomy | [.88] | | | | | | | |
| 2. Perceived conflict between law enforcement and the public | -.04 | [.78] | | | | | | |
| 3. Perceived legitimacy of BWCs | .31** | -.02 | [.77] | | | | | |
| 4. Job satisfaction | .49*** | .03 | .23 | [.88] | | | | |
| 5. Self-efficacy | .32** | .34** | .08 | .49*** | [.93] | | | |
| 6. Rank_Officer | -.01 | -.00 | .00 | .04 | -.06 | --- | | |
| 7. OrgTenure | -.02 | .03 | -.07 | -.16 | -.01 | -.88*** | --- | |
| 8. Gender_Male | .05 | -.18 | -.25* | -.07 | -.07 | .30* | -.24* | --- |

Notes. $N = 71$; * $p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed). Alpha reliabilites are in brackets. All variables measured at Time 1.

Table 3: Study 2a Means, Standard Deviations, and Correlations

| Variables | <i>M</i> | <i>SD</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--|----------|-----------|---------|-------|--------|-------|-------|--------|---------|------|-----|
| 1. Perceived low autonomy | 4.02 | 1.70 | [.88] | | | | | | | | |
| 2. Perceived conflict between law enforcement and the public | 5.18 | 1.09 | .21** | [.74] | | | | | | | |
| 3. Interpersonal effectiveness | 3.94 | .24 | -.04 | -.03 | [.91] | | | | | | |
| 4. Public image effectiveness | 4.02 | .22 | -.06 | -.05 | .52*** | [.86] | | | | | |
| 5. Job satisfaction | 5.14 | 1.45 | -.27*** | -.15 | -.06 | .04 | [.88] | | | | |
| 6. Agency1 | .57 | .50 | .25* | .09 | .12 | -.06 | -.19* | --- | | | |
| 7. Rank_Officer | .73 | .44 | .24** | .01 | .08 | .01 | -.10 | .37*** | --- | | |
| 8. OrgTenure | 9.34 | 7.33 | -.04 | .03 | -.05 | -.07 | -.06 | -.19* | -.54*** | --- | |
| 9. Gender_Male | .88 | .32 | .02 | -.11 | -.10 | .06 | -.02 | -.09 | .04 | -.14 | --- |

Notes. $N = 164$; * $p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed). Excluded Agency2, Rank_Other, Gender_Female. Alpha reliability scores are in brackets.

Table 4: Study 2b Means, Standard Deviations, and Correlations

| Variables | <i>M</i> | <i>SD</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|----------|-----------|---------|--------|--------|-------|--------|-------|---------|-------|--------|------|-----|
| 1. Perceived low autonomy (T1) | 4.06 | 1.56 | [.91] | | | | | | | | | | |
| 2. Perceived conflict between law enforcement and the public (T1) | 5.09 | 1.17 | .21** | [.72] | | | | | | | | | |
| 3. Task effectiveness (T2) | 3.85 | 1.37 | -.27*** | -.07 | [.93] | | | | | | | | |
| 4. Job satisfaction (T1) | 5.19 | 1.46 | -.20* | -.23** | .27*** | [.90] | | | | | | | |
| 5. Agency1 (T1) | .20 | .40 | -.14 | .00 | .18* | .25** | --- | | | | | | |
| 6. Agency2 (T1) | .06 | .25 | -.11 | -.09 | .03 | .11 | -.13 | --- | | | | | |
| 7. Agency3 (T1) | .08 | .27 | -.20** | .04 | .25** | .10 | -.14 | -.08 | --- | | | | |
| 8. Agency4 (T1) | .14 | .35 | .13 | .00 | -.06 | -.17 | -.20** | -.11 | -.12 | --- | | | |
| 9. Rank_Officer (T1) | .83 | .38 | .17* | .14 | .01 | -.06 | -.12 | -.00 | -.04 | .19* | --- | | |
| 10. OrgTenure (T1) | 9.11 | 7.10 | .04 | .01 | -.15 | -.12 | .18* | -.19* | -.33*** | .23** | -.20** | --- | |
| 11. Gender_Male (T1) | .87 | .34 | .04 | .03 | .01 | -.03 | .02 | .03 | .11 | -.06 | .01 | -.07 | --- |

Notes. $N = 168$; * $p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed). Excluded Agency5, Rank_Other, Gender_Female. T1 = measured at Time 1, T2 = measured at Time 2 (T1 + 6 months). Alpha reliability scores are in brackets.

Table 5a: Study 2a Interactive Effects of Perceived Autonomy and Conflict on Interpersonal Effectiveness (without Controls)

| Variables | Independent Ratings of Interpersonal Effectiveness | | |
|--|--|------------|----------------|
| | <i>coefficient</i> | <i>SE</i> | <i>t</i> |
| Perceived low autonomy | -.00 | .01 | -.38 |
| Perceived conflict between law enforcement and the public | -.01 | .02 | -.60 |
| Perceived low autonomy x perceived conflict between law enforcement and the public | -.03 | .01 | -3.01** |

Notes. $N = 164$; ** $p < .01$; Output from PROCESS Model 1; Bolded statistics show test of hypothesis.

Table 5b: Study 2a Interactive Effects of Perceived Autonomy and Conflict on Interpersonal Effectiveness (with Controls)

| Variables | Independent Ratings of Officer Effectiveness | | |
|--|--|------------|----------------|
| | <i>coefficient</i> | <i>SE</i> | <i>t</i> |
| Job satisfaction | -.01 | .01 | -.38 |
| Agency1 | .06 | .04 | 1.39 |
| Rank_Officer | .01 | .06 | .11 |
| OrgTenure | -.00 | .00 | -.46 |
| Gender_Male | -.08 | .06 | -1.29 |
| Perceived low autonomy | -.01 | .01 | -.43 |
| Perceived conflict between law enforcement and the public | -.02 | .02 | -.90 |
| Perceived low autonomy x perceived conflict between law enforcement and the public | -.03 | .01 | -2.96** |

Notes. $N = 164$; ** $p < .01$; Output from PROCESS Model 1; Bolded statistics show test of hypothesis.

Table 6a: Study 2a Interactive Effects of Perceived Autonomy and Conflict on Public Image Effectiveness (without Controls)

| Variables | Independent Ratings of Public Image Effectiveness | | |
|--|---|------------|----------------|
| | <i>coefficient</i> | <i>SE</i> | <i>t</i> |
| Perceived low autonomy | -.00 | .01 | -.20 |
| Perceived conflict between law enforcement and the public | -.01 | .02 | -.67 |
| Perceived low autonomy x perceived conflict between law enforcement and the public | -.03 | .01 | -2.72** |

Notes. $N = 164$; ** $p < .01$; Output from PROCESS Model 1; Bolded statistics show test of hypothesis.

Table 6b: Study 2a Interactive Effects of Perceived Autonomy and Conflict on Public Image Effectiveness (with Controls)

| Variables | Independent Ratings of Public Image Effectiveness | | |
|--|---|------------|----------------|
| | <i>coefficient</i> | <i>SE</i> | <i>t</i> |
| Job satisfaction | .00 | .01 | .08 |
| Agency1 | -.01 | .04 | -.33 |
| Rank_Officer | -.02 | .05 | -.32 |
| OrgTenure | .03 | .05 | .52 |
| Gender_Male | .03 | .05 | .52 |
| Perceived low autonomy | -.00 | .01 | -.31 |
| Perceived conflict between law enforcement and the public | -.00 | .02 | -.56 |
| Perceived low autonomy x perceived conflict between law enforcement and the public | -.03 | .01 | -2.82** |

Notes. $N = 164$; ** $p < .01$; Output from PROCESS Model 1; Bolded statistics show test of hypothesis.

Table 7a: Study 2b Interactive Effects of Perceived Autonomy and Conflict on Task Effectiveness (without Controls)

| Variables | Self-Report Ratings of Task Effectiveness | | |
|--|---|------------|--------------------------|
| | <i>coefficient</i> | <i>SE</i> | <i>t</i> |
| Perceived low autonomy | -.13 | .07 | -1.83 [†] |
| Perceived conflict between law enforcement and the public | -.07 | .09 | -.83 |
| Perceived low autonomy x perceived conflict between law enforcement and the public | -.11 | .05 | -1.94[†] |

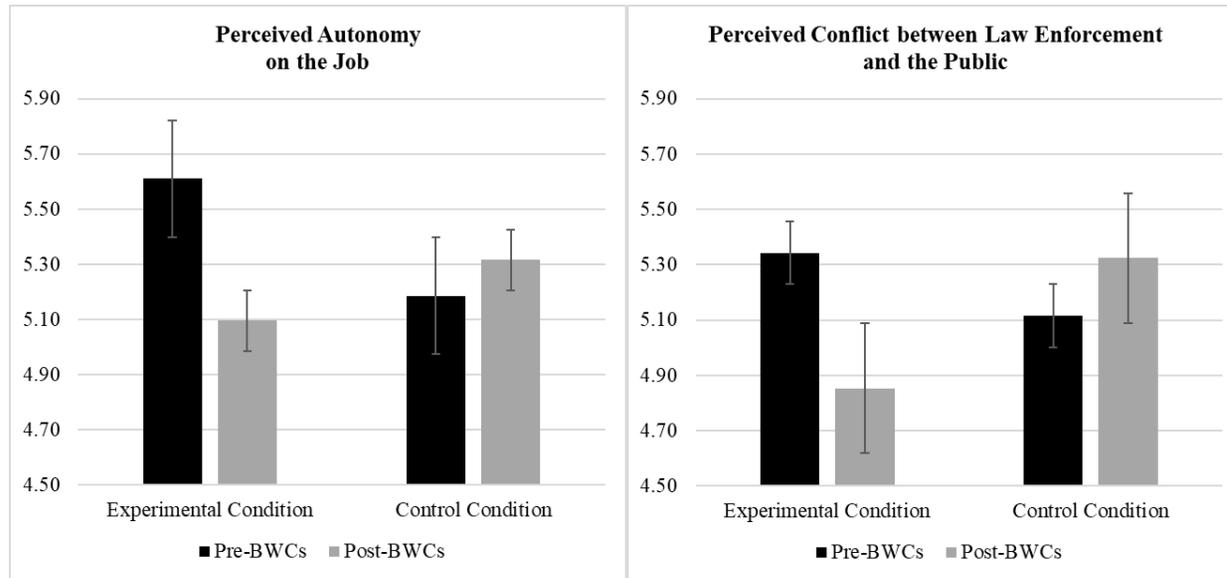
Notes. $N = 168$; [†] $p < .10$; Output from PROCESS Model 1; Bolded statistics show test of hypothesis.

Table 7b: Study 2b Interactive Effects of Perceived Autonomy and Conflict on Task Effectiveness (with Controls)

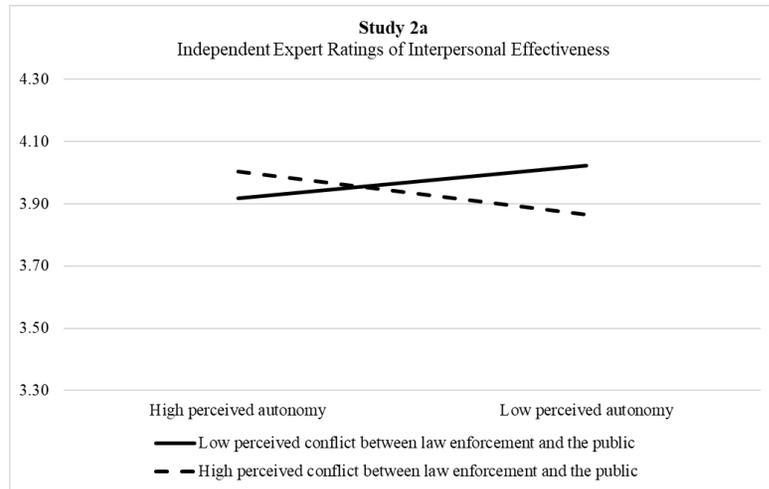
| Variables | Self-Report Ratings of Task Effectiveness | | |
|--|---|------------|--------------------------|
| | <i>coefficient</i> | <i>SE</i> | <i>t</i> |
| Job satisfaction | .14 | .08 | 1.75 [†] |
| Agency1 | .68 | .28 | 2.41* |
| Agency2 | .16 | .42 | .38 |
| Agency3 | 1.00 | .45 | 2.25* |
| Agency4 | .20 | .32 | .62 |
| Rank_Officer | .14 | .28 | .51 |
| OrgTenure | -.01 | .02 | -.81 |
| Gender_Male | .06 | .30 | .19 |
| Perceived low autonomy | -.14 | .07 | -1.93 [†] |
| Perceived conflict between law enforcement and the public | -.04 | .09 | -.43 |
| Perceived low autonomy x perceived conflict between law enforcement and the public | -.10 | .05 | -1.87[†] |

Notes. $N = 168$; * $p < .05$, [†] $p < .10$; Output from PROCESS Model 1; Bolded statistics show test of hypothesis.

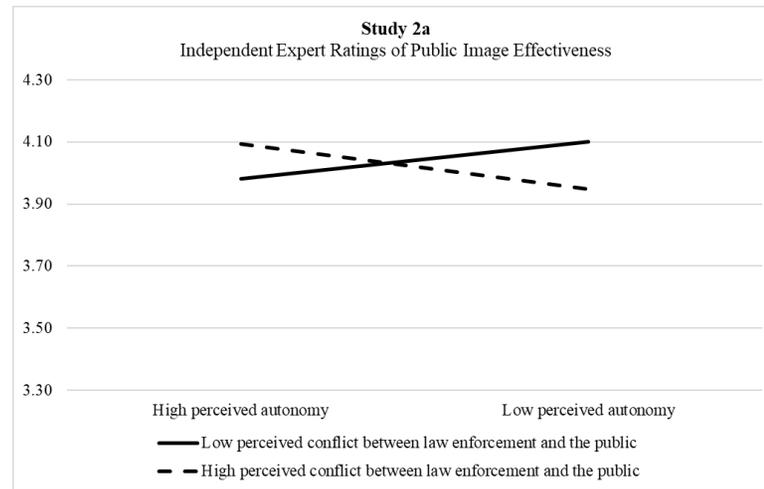
Figure 1: Study 1 Effects of Body Worn Cameras on Officers' Perceived Autonomy and Conflict between Law Enforcement and the Public



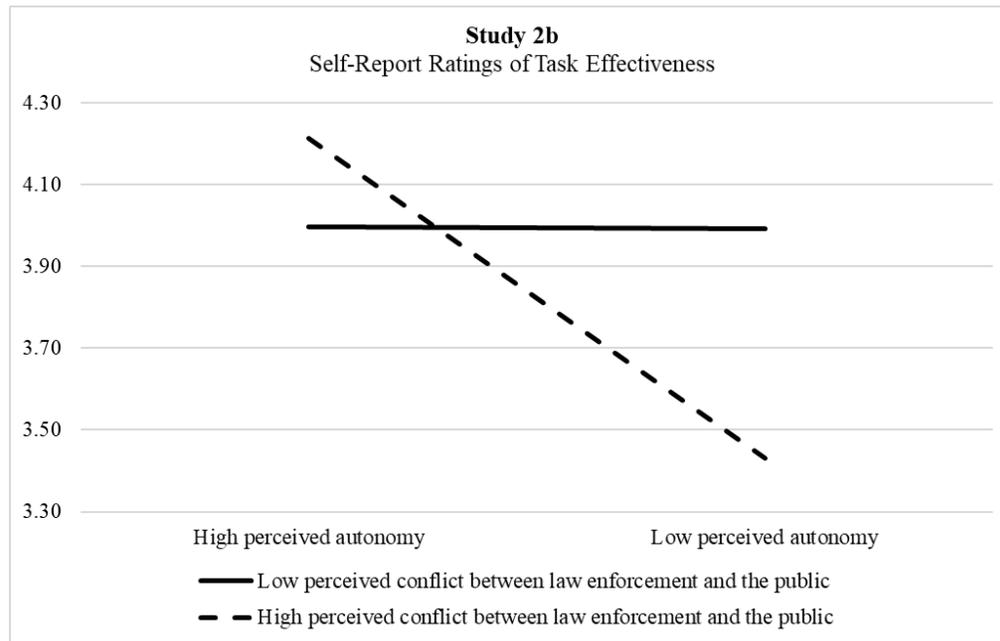
Notes. Bars denote 95% confidence intervals.

Figure 2: Study 2a Simple Slopes of Interactive Effects of Perceived Autonomy and Conflict on Interpersonal and Public Image Effectiveness

Notes. Simple slopes when perceived conflict is high (simple effect = $-.04$, $SE = .02$, $t = -2.59$, $p = .01$); simple slopes when perceived conflict is low (-1 SD) (simple effect = $.03$, $SE = .02$, $t = 1.62$, *n.s.*)



Notes. Simple slopes when perceived conflict is high (simple effect = $-.04$, $SE = .02$, $t = -2.48$, $p = .01$); simple slopes when perceived conflict is low (-1 SD) (simple effect = $.03$, $SE = .02$, $t = 1.69$, *n.s.*)

Figure 5: Study 2b Simple Slopes of Interactive Effects of Perceived Autonomy and Conflict on Task Effectiveness

Notes. Simple slopes when perceived conflict is high (+1 SD) (simple effect = $-.25$, $SE = .09$, $t = -2.94$, $p < .01$); simple slopes when perceived conflict is low (-1 SD) (simple effect = $-.00$, $SE = .10$, $t = -.02$, *n.s.*)

SUPPLEMENTAL MATERIALS

Overview

We collected “informal” qualitative data in Study 2b to provide further insights into Hypothesis 1, which stated that body worn cameras (BWCs) would reduce police officers’ perceived conflict between law enforcement and evaluators (by providing them with a greater sense of transparency and protection) and reduce their perceived autonomy (by lowering their sense of discretion on the job). So as to not unduly influence employee responses, we asked officers broadly, in an open free-text format, what they thought were the advantages and disadvantages of the BWCs. Specifically, we asked the following questions as part of the Study 2b survey:

- (1) What advantages of the body worn cameras do you see, if any?; and
- (2) What disadvantages of the body worn cameras do you see, if any?

Of the 168 officers who responded to the survey, 164 of them (98%) provided free text responses to these two questions. (All officers who provided a free text response did so for both advantages and disadvantages).

Response Coding Method

Two coders—a research associate (RA) and one of the authors—analyzed the free text responses using a three-step process that is standard for inductive, qualitative methods. Following Pratt et al (2006), we began by independently reading all the free text responses and forming provisional categories and first-order codes, via open coding (Locke, 2001), to describe respondents’ views of the BWC’s advantages and disadvantages. Because the advantages and disadvantages were described in materially different ways by the respondents, we coded these responses separately (i.e., with different code structures for each) in Nvivo. We then shared our first-order codes with each other. Where there was agreement (over 90%), we solidified our codes, consolidating categories as we did so. Where there were discrepancies, we iteratively revisited the data and our codes until we produced revised categories upon which we agreed. As we consolidated and revised categories, they became more theoretical and

abstract—that is, we moved from open to axial coding (Locke, 2001; Strauss and Corbin, 1998). Table S1 summarizes our first-order and final categories, along with the frequency with which they appeared.

Findings

As can be seen in Table S1, the most frequent advantage of the BWCs that the police officers noted concerned “Protection of the Officers by Showing the Truth” (66%). Within this category, the vast majority (90%) of officers noted that BWCs specifically helped law enforcement officers “show the truth from the officers’ perspective” and “protect officers” accused of misconduct (shaded in gray in S1). Although officers did not specifically refer to conflict between law enforcement and evaluators, these micro-mechanisms of transparency and protection mapped onto our theorizing about the informational advantages that employees are afforded when monitoring technologies are implemented and employees are allowed access (see pg. 10 of the main manuscript). That is, the open-ended responses indicated that, as we had hypothesized, the BWCs were giving officers the sense that they had “unbiased” and “objective” information to use at their disposal. As informational power theories would suggest, this may explain why we in turn found a decrease in officers’ perceived conflict between law enforcement and evaluators in Study 1.

We received more varied responses with regards to the disadvantages of BWCs (i.e., there were more first-order categories). The two most frequent responses, “Perceptions of Reduced Autonomy and Privacy” (31%) and relatedly, “Behavioral Indications of Reduced Autonomy and Privacy, Undermining Productive Officer Behavior” (17%), were in line with our theoretical arguments for Hypothesis 1. Officers specifically commented on issues of micromanagement, reduced discretion, and privacy violations, and within the second category, they provided examples of how lower autonomy was affecting their behaviors, such as causing hesitation while making decisions and prompting rapid, potentially ineffective tactical changes (shaded in gray in S1).

In sum, the additional qualitative data collected in Study 2b provides additional support for our theoretical arguments concerning the psychological impact of BWCs as well as additional insights into the empirical findings reported in Study 1.

Table S1

| Final Category (Advantages) | First-Order Code (Advantages) | Representative Example Quotations (Advantages) |
|--|---|--|
| Protect Officers by Showing the Truth 131 instances (66%) | Show the Truth, Officer Perspective (59 instances) | <p>“Truth”</p> <p>“With the BWC your supervisor or whoever can now view the suspect action in his vehicle when that officer wearing the BWC approaches the vehicle.”</p> <p>“Allows the truth to be exposed and eliminate whether or not the officer is being truthful.”</p> <p>“Tells the true story.”</p> <p>“It is the closest to the actual perception that the officer sees”</p> <p>“To provide transparency with law enforcement actions”</p> <p>“Validation of the situation”</p> <p>“An unbiased copy of the events is being captured.”</p> <p>“The camera doesn't lie”</p> <p>“The camera never lies.”</p> <p>“Obviously it will show what happened from the officers POV.”</p> <p>“Tells my side of the story”</p> <p>“Proving what we see and what actually happens”</p> <p>“Will tell the real story of what transpired”</p> <p>“Protecting the truth.”</p> |
| | Protection – Officers (59 instances) | <p>“Protect Officers from false accusations.”</p> <p>“Protects the officer from subjects saying they did wrong.”</p> <p>“Protection of officers doing well and false complaints against them.”</p> <p>“Gives the viewer the vantage point of the officer. Can eliminate false complaints against officers.”</p> <p>“We are protected from citizen complaints, use of force complaints, or any other complaint [to supervisors], of inappropriate conduct.”</p> <p>“I see it protecting officers side of the stories (for example, use of force).”</p> <p>“protecting the officer from people that lie about what happened.”</p> <p>“I believe that police officers make the right decision 99.9% of the time; therefore the BWCs will document the evidence as it happened and prove the officer's cases”</p> <p>“An advantage of the BWCs is it gives officers another level of protection against false accusations and complaints.”</p> |
| | Reduce Citizen Complaints (10 instances) | <p>“Citizens respond differently when they know the truth.”</p> <p>“keep the public from going "up in arms" about stuff they don't have any details about.”</p> <p>“Less unsubstantiated complaints against officers”</p> <p>“stop false claims”</p> |

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| | | <p>“They can also be used to show what actually happens at a scene or incident in the media age when if it’s not on camera it didn't happen. This can help to appease the public and quell any sensationalism brought on by media outlets”</p> |
| | Reduce Public Aggression (3 instances) | <p>“If people are aware you have a BWC on they might not be as aggressive.”</p> <p>“To potentially prevent future riots.”</p> <p>“and better cooperation from the public when the public sees they are being recorded.”</p> |
| Show the Reality of the Officers’ Jobs 32 instances (16%) | Show Job Difficulty (16 instances) | <p>“It will show the amount of difficulty that an officer goes through on a daily basis”</p> <p>“Display to courts and public how quickly events unfold and decisions made”</p> <p>“It will document all of what officers deal with on a daily basis”</p> <p>“Shows what law enforcement officers have to go through”</p> |
| | Educate the Public (16 instances) | <p>“The public sees first hand what we see and hear on a daily basis”</p> <p>“showing the vast majority of officers are doing things right.”</p> <p>“The public will be able to see the police officers perspective more often.”</p> <p>“Show the community what we actually deal with everyday because they have no clue.”</p> <p>“I think it can also help, if used correctly and effectively, not only by the officers who wear them but by the Department who has the ability to increase the public's knowledge of policing, by increasing the community's understanding and trust of the police. Knowledge and communication are the key to any relationship. You can't separate yourself from the people you serve. It is our responsibility as sworn officers to uphold our oath and protect the community. That job would be a lot easier if we had the community on our side. We can get the community on our side by welcoming them in to our world to see what really happens.”</p> |
| Make Officers More Effective 24 instances (12%) | Help Prosecute Criminals (15 instances) | <p>“the video will be available for criminal and internal affair cases.</p> <p>“BWCs will aid in the prosecution of criminal offenders by possibly having video evidence that was not available before.”</p> <p>“Evidence in court and admissions of guilt by offenders. Victims will not be able to recant on statements”</p> |
| | Help with Report Writing (1 instance) | <p>“Assist officers in report writing”</p> |
| | Officer Training (8 instances) | <p>“Officer safety, training and improving oneself”</p> <p>“I feel the use of BWCs for training purposes is a huge advantage.”</p> <p>“supervisors will gain insight into subordinates.”</p> <p>“future education”</p> |
| Improve Officer Behavior 13 instances (6%) | Improve Officer Behavior (5 instances) | <p>“For some, it will also impact their behavior when they know or see they are being recorded.”</p> <p>“I hope to see more professionalism within our agency.”</p> |

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| | | <p>“Accountability for officers.”</p> <p>“Influencing behaviors”</p> |
| | <p>Protect Community from Officers (8 instances)</p> | <p>“Protecting the community from the officers that are doing wrong.”</p> <p>“Problem officers can be dealt with accordingly.”</p> <p>“Protecting public from a bad officer.”</p> <p>“These videos can be used to protect innocent officers as well as innocent citizens. We as officers dislike a dirty cop just like the rest of the community. If these cameras can help to eradicate those that bring discredit to our profession, we should all welcome them.”</p> |

Notes. Shaded boxes pertain to Hypothesis 1.

| Final Category (Disadvantages) | First-Order Code (Disadvantages) | Representative Example Quotations (Disadvantages) |
|---|---|--|
| <p>Perceptions of Reduced Autonomy and Privacy 72 instances (31%)</p> | <p>Increases Micromanagement, Discipline, Scrutiny (43 instances)</p> | <p>“will be used to micromanage officers’ decisions”</p> <p>“Being used against officers as a micro-management tool.”</p> <p>“Although we have been told that they will not be used to ferret out complaints against Officers, I believe that this is exactly why it is being implemented.”</p> <p>“Administration using them to 'nit-pick' an employee with actions and behaviors that they deem improper.”</p> <p>“The ability of supervisors to overview our day and time”</p> <p>“Everything we do will now be looked over with a fine tooth comb”</p> <p>“BWC's will allow law enforcement administrators to pick apart a video piece by piece and scrutinize every move an officer makes.”</p> <p>“More dispute on what the untrained eye would have, could have, or should have done.”</p> <p>“Police "experts" i.e. those who teach because they lack the values or skillset to actually police will scrutinize actions more and more to where criminals will be able to live with little fear of consequence”</p> <p>“I see every decision officers make on any type of run being dissected by a command staff that wasn't even there. If this starts to happen I can see morale really getting bad.”</p> <p>“police will now be under a recorded microscope and any mistake will be magnified.”</p> <p>“I do see some disadvantages. This could let our command staff nitpick at our encounters and reprimand us for things that are not even relevant.”</p> <p>“People make mistakes in general, police officers are no different. We are however judged on a completely different scale from all others. Whether right or wrong, we are all bound by human nature to make mistakes or make a wrong decisions. The camera will catch everything, major or minor.”</p> |

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| | | <p>“These cameras are placing heavy restrictions on officers proactive work because they feel they are being watched all the time”</p> <p>“Officers may be tentative to use force for worry of perception and will be injured due to lack of action”</p> <p>“I fear departments will use the information to go over officers every move and ‘Monday Morning Quarterback’ them.”</p> |
| | Reduces Officer Discretion (17 instances) | <p>“Less officer discretion”</p> <p>“Officer discretion has been greatly reduced.”</p> <p>“It will reduce the discretion officers use to be efficient in their work.”</p> <p>“Officer discretion goes away.”</p> <p>“Officer discretion will be reevaluated and questioned.”</p> <p>“Takes away some of the discretion of the job. Minor things now have to be addressed whereas before we could let them go to serve a greater purpose or salve a different problem.”</p> <p>“No longer being able to use discretion in the field for minor offenses.”</p> <p>“Fear of Monday-morning quarterbacking discourages officer discretion and may lead to robotic-like enforcement.”</p> <p>“At some point, you have to trust someone you give a badge and gun. If you can't or don't, that directly reflects a deeper issue, like recruiting, hiring practices, and a disciplinary process that isn't adhered to uniformly.”</p> <p>“eliminates nearly all discretion”</p> |
| | Reduces Officer Private Time and Personal Space (12 instances) | <p>“No privacy for officers.”</p> <p>“The officers will have no private time if the BWC's can be activated at anytime. For example having a private conversation on the phone or with another coworker.”</p> <p>“un-intended recordings - (non-work related / day to day social work place interactions / etc)”</p> <p>“Officers can laugh and joke as a way to relieve stress from a call and may forget to not record”</p> <p>“Recording personal conversations with family. We've come to a point that if it wasn't on video, we don't believe the officers”</p> <p>“Already in the three weeks I have had mine I have at least twice made intimate messages from my wife public record.”</p> <p>“have to leave them running while speaking to other officers about the case.”</p> <p>“Getting into personal space”</p> <p>“It records my every move and it is public record.”</p> <p>“Invasion of Officer's privacy.”</p> |

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| Behavioral Indications of Reduced Autonomy and Privacy, Undermining Productive Officer Behavior 38 instances (17%) | Changes Officer Behavior – Hesitating (16 instances) | <p>“We are going to be ‘overly cautious’ when confronting a situation as we know that every action and comment is being recorded.”</p> <p>“officers often say things to get a particular reaction from a suspect or victim. This could be used during trial to make officers out to look poorly to jurors.”</p> <p>“Refrain from doing/saying things in fear of getting in trouble. Sometimes fast aggression stops future problems on scenes. I see officers hesitating due to cameras”</p> <p>“Officers will be reluctant to perform their duties with even more scrutiny of their every action now available”</p> <p>“Officers become overly worried about ‘how things will look’ and will not perform their duties as they have been trained. Officers may be tentative to use force for worry of perception”</p> <p>“Officers will hesitate to protect themselves and others”</p> <p>“Officers are already scared to defend themselves so this will only further the second guessing putting them in more danger”</p> |
| | Changes Officer Behavior – Impacting Positioning, Tactics (7 instances) | <p>“Officers changing their tactics when dealing with subjects that will be more "appealing" on video, but, violates sound officer safety tactics.”</p> <p>“Officers basing too much emphasis on the camera, placing them in a tactically unfavorable positions.”</p> <p>“Makes you police differently”</p> |
| | Changes Officer Behavior – Less Patrolling, Proactivity (5 instances) | <p>“Lower incentive for proactivity”</p> <p>“I believe many officers will no longer actively patrol their beats looking for crime because of the liability the cameras bring. It just isn't worth risking your livelihood when every action you take or word you say can be scrutinized and held against you, even when you've acted correctly in the performance of your duties.”</p> <p>“Police will respond slower to trouble runs hoping to avoid and suspect initiated use of force that could reflect negatively on the Officer and his or her career.”</p> |
| | Another Thing to Think About (6 instances) | <p>“It is another thing for the officer to think of, having to activate it and when to do so, instead of concentrating more on the situation at hand”</p> <p>“It will be a distraction, because it will always be in the back of officers' minds when they act/react.”</p> <p>“The big disadvantages are that now I have an extra piece of equipment to maintain and keep up with”</p> <p>“They will become overly concerned about all of the equipment they are required to operate, turn on, turn off, check for functionality before, during, and after the shift, and they will lose focus of the reason they became an officer in the first place.”</p> |

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| | Reduces Officer Collaboration (4 instances) | <p>“It is also harder for Officers to discuss amongst themselves about what's going on.”</p> <p>“Officers will have more difficulty ‘conferencing’ to make a decision about a situation.”</p> <p>“doesn’t allow for newer officers to discuss on the scene issues with senior officers.”</p> |
| Technological Limitations 37 instances (16%) | Not a Perfect Replication of the Scene (26 instances) | <p>“Just because something is on camera does not mean that it will give you a complexly accurate view of the total situation.”</p> <p>“The camera can only view what is in front of it. It is only a 95 degree view of a 360 degree situation.”</p> <p>“Inability to add the other "senses" necessary to discuss any use of force or actions in question made by officers, that may be called into question.”</p> <p>“Depending on the type of lens on the camera, view will be limited to what is directly in front of the BWCs.”</p> <p>“body cameras just like dash cameras provide only a 2-d image of a 3-d event”</p> <p>“Will not show other POV and does not give an idea of the officers instinct during an incident.”</p> <p>“The camera misses things just as much as a human does.”</p> <p>“Not able to clearly see what we saw.”</p> |
| | BWC Device Limitations (11 instances) | <p>“Fragile”</p> <p>“Battery life”</p> <p>“The cameras may break, or malfunction when you need them.”</p> <p>“Maintenance”</p> <p>“It has a wire which goes near my neck and could be used against me as a weapon.”</p> <p>“Does not work in the dark”</p> <p>“As anything that is mechanical, I foresee operator error and or mechanical error.”</p> <p>“Storage limitations”</p> <p>“From what I have seen, most of the BWC video is very unstable. Hopefully, future technology will allow for gyro-stability to be implemented into the camera systems.”</p> |
| Increases Risk to Officers 30 instances (13%) | Expected Misuse, Misinterpretation, Evaluators Will Disregard Anyway (14 instances) | <p>“People are always going to see what they want to see no matter what happens.”</p> <p>“We are all potentially political fodder to be disposed by upper command (politicians, not policemen) when it is expedient. BWCs give them another tool to target us when that time comes.”</p> <p>“unqualified speakers can drag you through the mud (the controversial is only video that comes to light, the good almost always gets overlooked).”</p> <p>“No doubt a ‘concerned’ citizen will film the encounter with his/her cell phone rather than aid the officer and will have a much better view”</p> <p>“BWCs may not show all of an event. However, the public will view the videos as showing the entire event.”</p> |

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| | | <p>“It can be the officer’s best friend but it can be the officer’s worse enemy”</p> <p>“Misinterpretation”</p> <p>“If you play the video... they can interpret it any way they choose.”</p> <p>“Even minor mistakes are judged differently from other people making that same mistake. People also fail to comprehend that the criminals play by no rules, yet police are obligated and supposed to follow all rules. If you put two equal people to the same task, but with one, you have numerous rules or regulations that they have to follow, and the other can literally do whatever they want, who is likely to come out ahead? If I can run a straight line on level even ground but the other has to jump hurdles or is held back, how often will the one with obstacles come out ahead? If we knew people were or weren't armed, that'd make our job a lot easier. If we knew whether someone intended to hurt us or didn't, that would make things easier. We are forced to prepare for the worst, because the worst day of our lives could be waiting for us on any given day. If you don't prepare, you won't survive. We do our job based on planning and thinking the worst because often times people call on us to help them when they are at their worst. We constantly see the worst society has to offer, it alters us and our minds, our way of thinking, our being and the way we live our lives. These cameras don't feel that, they just record. It's a machine, not a human being. It doesn't have a bad day, it doesn't have problems that no one offers help to, yet we are expected every day to go help everyone else and fix their lives. When others make mistakes or have bad days, how often are they recorded. In retrospect, I'm sure they would do things a lot differently also. We aren't given that chance. Feelings are not supposed to play a part in our decisions or our actions. When people try to hurt or kill us, bite us, hit us, come after us, we're only supposed to respond and then stop and do no more.”</p> |
| | <p>Risk of Accusations Because Camera Footage Not Recorded (12 instances)</p> | <p>“The only disadvantages I can see is that if, for some reason, the body camera did not capture the video, or malfunctions, it will be automatically assumed that the officer did something wrong and was hiding that fact by not activating the BWC.”</p> <p>“Questioning of the officer if they forget to turn it on or don't get a chance to turn it on in a stressful situation.”</p> <p>“Accusations of wrong doing when a camera fails to record or is forgotten to be turned on”</p> <p>“we are becoming too reliant on technology, when it doesn't work or there is a problem with the video the officer’s credibility will be the first to be questioned”</p> <p>“We have an officer at this time being accused of untruthfulness under oath because some of his testimony could not be verified because it was not caught on camera.”</p> <p>“If the officer fails to activate his camera because things happen at an instant, the officer will be crucified.”</p> |

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| | | <p>“The officer stands accused of tampering with evidence or accuse of sabotaging the BWC, even if the BWC fails on its own.”</p> <p>“Similar to the CSI effect on prosecutions where juries expect DNA & fingerprints on EVERY case: if it isn't caught on camera, it will become presumed that we are lying and/or it just didn't happen.”</p> <p>“if it isn't on camera it didn't happen”</p> |
| | <p>Increases Negative Perceptions of Officers/Self (4 instances)</p> | <p>“Wearing the BWCs also gives the perception that the [senior members of the police department] believe that their officers are behaving in an unprofessional and immoral manner.”</p> <p>“Increased scrutiny in one of the already most reviewed & scrutinized professions discourages good people from seeking this job”</p> <p>“The word of the officer used to be golden, it is now no longer relevant”</p> |
| <p>Undermines Officer Efficiency 20 instances (9%)</p> | <p>Time Consuming to Manage, Reducing Time on the Street (10 instances)</p> | <p>“Too much time uploading and categorizing video. Officers should not have to maintain their own video. The only requirement an officer should have is making sure the video camera device is recording.”</p> <p>“I also foresee officers spending a great deal of time having to leave the streets in which they patrol so that they can download the data from the cameras during each shift.”</p> <p>“More time dealing with downloads of videos. Taking Officers off the street patrolling and making calls for service.”</p> <p>“Time consuming to upload, more work for officer”</p> <p>“They take officers off the street for uploading”</p> <p>“time to upload data, etc.”</p> |
| | <p>Expensive (7 instances)</p> | <p>“Financial costs”</p> <p>“department waste money on keeping the files”</p> <p>“the storage of BWC's costs a lot of money. This is something I believe most tax-payers do not realize.”</p> <p>“Cost, we are spending way too much to appease a small group of the public in an attempt to catch an even smaller chance of catching a cop making a wrong decision. This is a technology based and is more than likely to be antiquated system before we even start. As a tax payer I would much rather see the 2.5 million over 5 years used to hire more police to serve the community and better home incarceration programs. Like real time GPS monitoring of inmates on work release and probation/ parole. or let our mayor and metro council members wear one for the day, I'm confident we would catch more politicians involved in poor decision making than any officer.”</p> |

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| | Uncomfortable to Wear (3 instances) | <p>“It takes up room on the duty belt which is already cluttered with tools that I am required to carry. The cluttered duty belt will lead to me being uncomfortable all shift long and back pain”</p> <p>“gets in the way -- wires, battery pack, etc.”</p> |
| No Disadvantages 20 instances (9%) | No Disadvantages (20 instances) | <p>“None”</p> <p>“Nothing”</p> <p>“None seen at this time?”</p> <p>“I see no disadvantages of the BWC.”</p> |
| Infringes on Public’s Privacy 11 instances (5%) | Infringes on Public’s Privacy (11 instances) | <p>“Open records request and privacy issues of general citizens and their homes and issues.”</p> <p>“Sensitive info and footage”</p> <p>“Many people will most likely not want to be recorded nor have the inside of their homes recorded. This brings up issues with the 4th Amendment and reasonable expectation of privacy”</p> <p>“The government should not be videotaping the daily lives of citizens. BWC's should only be used for use of force incidents. The government should not be recording my interactions with it on a daily basis. As a citizen it's one step closer to NSA's snooping of emails etc.”</p> <p>“In a community where they are already afraid to cooperate with police, adding a camera will only increase that problem for fear the footage will be seen (might get some people killed).”</p> <p>“infringes on privacy of a lot of citizens since they are public record”</p> <p>“Picking up protected conversations”</p> <p>“People have also been not as willing to speak with us or provide information when they see they are being recorded, for fear that will come up in court and others will find out.”</p> <p>“Being open records bound, body cam footage will allow people to view areas of the community that they might not be legally privy to.”</p> |

Notes. Shaded boxes pertain to Hypothesis 1.

References S1

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