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Electronic Performance Monitoring: The Role of Reactance, Trust, and Privacy Concerns in Predicting Job Satisfaction in the Post-Pandemic Workplace

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Abstract

Recent technological advancements combined with the accelerated trend toward remote work since the pandemic have contributed to a significant rise in electronic performance monitoring (EPM) in the workplace. Currently, nearly 80% of U.S. employers engage in some form of EPM to manage their employees. Using a theoretical foundation of Psychological Reactance Theory and the Stakeholders' Privacy Calculus Model, this study examines employees' perceptions of the risks and benefits associated with two common electronic monitoring practices (keyboard and video camera monitoring), and demonstrates how these factors influence employees' privacy concerns, trust in their employer, and job satisfaction. Results from an online survey of 633 participants indicate that while employees appreciate the benefits of working remotely (and understand that EPM is a necessary component of it), they were also well aware of the risks associated with monitoring, including privacy invasion. Privacy concerns stemming from EPM were associated with a sizable reactance effect among respondents, which was, in turn, negatively correlated with both their attitude toward monitoring and their job satisfaction. That said, employer trust was strongly correlated with employees' positive attitude toward monitoring, which exceeded the level of negative response associated with their reactance. Taken in tandem, these findings suggest that employees are weighing the perceived risks and benefits of monitoring as suggested by the Stakeholders' Privacy Calculus Model in determining their reactance to EPM, their attitudes toward monitoring, and their job satisfaction.

Keywords: electronic workplace monitoring; Psychological Reactance Theory; Stakeholders Privacy Calculus Model; privacy concerns; trust; job satisfaction

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Introduction

Workplace surveillance has been practiced since the dawn of the industrial revolution. However, recent technological advancements combined with the accelerated trend toward remote work since the pandemic have contributed to a significant rise in both the form and frequency of employee monitoring in the modern workplace (Kantor & Sundaram, 2022; Ravid et al., 2020). A recent study indicated that nearly 80% of U.S. employers currently engage in some form of electronic performance monitoring (EPM) of their employees (American Management

Association, 2019). This practice encompasses a variety of tactics, including monitoring employee email and voicemail interactions, tracking their website and social media activity, monitoring their keyboard strokes, and video camera surveillance.

Employers assert that their primary motivation for monitoring employees is to identify areas where they are not working effectively, provide support and training, and improve their performance (Stanton & Stam, 2003; The Economist, 2022). That said, most employers want to ensure employees' compliance with company policies and procedures, maintain security of sensitive information, encourage high-quality customer interactions, and prevent accidents in the workplace (Ball, 2021). When employees perceive monitoring as beneficial to clarifying their performance expectations, providing personalized feedback and development, enhancing communication and camaraderie, ensuring safety and security, and facilitating remote work, it can contribute to a sense of commitment and mutual accountability in the workplace (Wells et al., 2007).

While acknowledging these benefits, employees are not universally accepting of technologies that capture increasingly intrusive information about their location and activities (Mateescu & Nguyen, 2019; Yost et al., 2019). Chief among their concerns is the threat of privacy invasion, which can be driven by a belief that their employer is generating extensive data about them that may not relate directly to their job performance (Kantor & Sundaram, 2022; Stanton & Weiss, 2000). These perceptions cause some employees to feel targeted, leading them to seek ways to retaliate through "cyberloafing" (using the Internet during work hours for non-work-related purposes; Lowe-Calverley & Grieve, 2017), and "quiet quitting" (being physically present, but disengaged from their work; Klotz & Bolino, 2022; Robinson, 2022). A deeper understanding of the factors influencing employees' attitudes toward EPM can help minimize the negative consequences driving their reactance, while potentially heightening job satisfaction (L. Sun & Bunchapattanasakda, 2019).

This evolving dynamic between employers and employees in the current technological age suggests an important research question addressed by this study. Specifically, how do employee monitoring and surveillance practices impact employee job satisfaction, both directly and indirectly due to privacy concerns and employer trust? Using a theoretical foundation of Psychological Reactance Theory (Brehm & Brehm, 1981) and the Stakeholders' Privacy Calculus Model (Bhave et al., 2020), this study examines the perceived risks and benefits associated with EPM, and how these factors influence employees' privacy concerns, trust in their employer, and ultimately, their job satisfaction. Limited academic attention has focused on the most common post-pandemic employee surveillance and monitoring practices (specifically keyboard and camera monitoring) and how they indirectly impact employee job satisfaction. The findings of this study suggest an extension to Psychological Reactance Theory by demonstrating that employees' reactance to camera and keyboard monitoring is determined by a privacy calculus of the benefits and risks of such monitoring; which, in turn, influences their attitudes toward monitoring, employer trust, and job satisfaction. This study also provides important insights about workplace privacy concerns for data privacy advocates and policymakers, which can provide a foundation for privacy policy enhancements designed to better protect employees while still allowing organizations to achieve their goals.

Growth of Employee Monitoring

Electronic performance monitoring (EPM) of employees is not a new concept. Nebeker and Tatum (1993) first defined it as "the use of electronic instruments or devices such as audio, video, and computer systems to collect, store, analyze, and report individual or group actions or performance" (p. 509). Since April 2020, global demand for employee monitoring software has more than doubled (Thiel et al., 2022), and a number of factors are believed to have contributed to this sharp increase. First, the widespread adoption of computers, smartphones, and other digital devices (such as smart speakers and wearable devices) has made it easier (and less costly) for employers to monitor their employees' activities during working hours (Ball, 2021). Many employers are using specialized software built into employees' personal devices to track everything from their keystrokes and screen activity to their location and step count (Mateescu & Nguyen, 2019; Przegalinska, 2019). The primary motivation behind this surveillance is purportedly to gain insights toward helping employees be more productive (Griffin, 2020).

Another factor fueling the dramatic rise in employee monitoring is the number of employees choosing to work from home since the pandemic. According to Pew Research, 61% of employees who have a workplace outside of their home say they prefer to work remotely all or part of the time (Parker et al., 2022). Although studies indicate that allowing employees to work remotely has contributed to increased employee satisfaction (Bloom et al., 2015) and productivity (Kazi & Hastwell, 2021), many organizations are still choosing to monitor their employees to ensure that policies related to the secure handling of sensitive assets and information are being adhered to by

remote workers (Ball, 2021). Remote-access technologies provide ample opportunity for cybercriminals to exploit unsecured technology systems; but Maurer (2020) found that when remote employees are aware that their online activities are being monitored, they are more likely to be cautious and accountable.

A third factor fueling the drive toward increased employee monitoring is growing pressure on organizations to improve performance in order to better compete with rivals (Kantor & Sundaram, 2022). Marketing strategists assert that designing their brand interactions to be more “customer centric” can not only deepen engagement with existing customers, but attract new customers from competitors (Harvard Business Review, 2022). Studies show that satisfied and engaged employees are more likely to have positive interactions with customers and perform better at their assigned tasks (Ravid et al., 2022; Wells et al., 2007). Moreover, Formica and Sfodera (2022) found that monitoring employee performance and offering incentives for improvement can foster communication and engagement among employees, and lead to higher quality customer interactions.

While academic studies related to the effects of EPM in the post-pandemic era are still emerging, a recent literature review by Ball (2021) identified three new literature streams related to workplace monitoring of interest to this study. First, emerging surveillance technologies are extending beyond performance management into the behaviors and personal characteristics of employees. Second, these new surveillance technologies are increasing concerns for some employees, leading to an increase in behavioral resistance and a decline in employer trust. A third emerging literature stream focuses on new workplace surveillance contexts, one of which is the increase in remote work brought about by the pandemic. The following sections incorporate each of these emerging literature streams and how they, in conjunction with related theoretical foundations, inform the hypothesized relationships examined in this study.

Emerging Employee Monitoring Practices

New technologies have not only presented reasons for organizations to monitor employees' behavior, they have also provided new surveillance methods and techniques (Moussa, 2015). In contrast to in-person monitoring, emerging forms of electronic surveillance can be inescapable, collecting extensive behavioral data about every employee, often without their awareness or consent (Ball, 2021; Przegalinska, 2019; Yost et al., 2019). The most common forms of electronic surveillance in the workplace include time-tracking, call monitoring, and email monitoring, which have been in practice since long before the pandemic (American Management Association, 2019). However, in recent years, many employers have adopted new forms of surveillance to better manage the growing number of employees who perform remote work, the most widely used being keyboard monitoring (which captures an employee's keystrokes to ascertain their work-related activity and productivity), and video camera monitoring (which monitors an employee's presence and behavior through the use of their web camera; The Economist, 2022).

Numerous studies (e.g., Benbya et al., 2020; Tong et al., 2021) indicate that deploying EPM technologies to provide performance feedback to employees provides two distinct advantages to organizations. First, these technologies are able to quickly aggregate and analyze multiple data sets reflecting employees' activities, thereby increasing the efficacy of their performance assessments. To maximize this benefit, employers must first clarify the specific expectations and goals for each monitored employee, which in turn, may make them feel more confident in their ability to achieve their goals. Second, because the data collected are so individualized, managers can provide detailed feedback that is relevant to each employee's unique work-related challenges and prepare more personalized recommendations for improvement. That said, critics point out that these electronic-based assessments work best with well-structured, repetitive tasks, and are less meaningful at evaluating performance at jobs that require greater flexibility and on-the-spot decision making (Kantor & Sundaram, 2022; Martin & Freeman, 2003).

Despite these advantages, organizations using EPM recognize that not all employees are embracing this practice. Indeed, a recent study indicated that nearly 70% of companies reported having employees resign due to electronic monitoring requirements (ResumeBuilder.com, 2023). Two overarching concerns voiced by a majority of monitored employees include: (1) uncertainty about the technological accuracy of the data recorded about their work-related activities (Mateescu & Nguyen, 2019; Shilton et al., 2021); and (2) the potential for privacy invasion (e.g., Ball, 2021; Yost et al., 2019). The perceived accuracy of workplace monitoring tools and practices is important to both employees and employers as it can impact not only the reliability and fairness of the information gathered, but the resulting consequences as well (Ball, 2021; Kantor & Sundaram, 2022) Electronic monitoring acts as a proxy for determining employees' performance, so if employees believe that the data reported by the monitoring tool

are incomplete (e.g., not capturing offline work activities), inaccurate (e.g., suggesting inactivity due to lack of keyboard movement), or unreliable (due to inevitable technology glitches), they are likely to feel they are being unfairly evaluated. These negative perceptions of EPM can lead to mistrust in the employer (Bondar et al., 2022; Kalischko & Riedl, 2023; Mateescu & Nguyen, 2019) as well as decreased job satisfaction (Alge & Hansen, 2014; Ravid et al., 2020).

Moreover, emerging surveillance tools (including wearable devices) are capable of collecting new forms of data about employees, enabling the quantification of activities and personal attributes that threaten their privacy (Ball 2021; Vitak & Zimmer, 2023a). These new technologies can track individual employees continuously, randomly, or intermittently (without warning or consent), since they are primarily designed to prevent deviant behavior rather than provide constructive performance feedback (Stanton & Weiss, 2000). Consequently, they are capable of capturing personal characteristics and/or behaviors that may not directly relate to an employee's job performance (Ravid et al., 2020; Vitak & Zimmer, 2023b; West, 2021). For example, e-mail monitoring allows organizations to track employees' thoughts, feelings, and attitudes as they are expressed in electronic messages; social media monitoring can trace the relationships and social connections that employees build inside and outside of the workplace (Ball, 2021); and wearable devices allow for the tracking of employees' locations and physiological states (Przegalińska, 2019). Multiple studies suggest that making employees feel overly controlled through monitoring may actually result in greater deviant behavior (Alge, 2001; Jensen & Raver, 2012).

Psychological Reactance Theory (PRT)

Given their increasingly invasive nature, some forms of EPM, such as keyboard and camera monitoring, can be viewed as threats and thus impact monitored employees' sense of autonomy. Psychological Reactance Theory (Brehm & Brehm, 1981) offers a useful framework for understanding the motivations behind these effects. According to PRT, individuals believe that they are entitled to a certain behavioral freedoms. When these freedoms are threatened or eliminated, affected individuals are likely to enter into a state of psychological reactance, which motivates them to restore the threatened or eliminated freedoms. In the context of electronic performance monitoring, PRT would suggest that employees may feel that their freedom is being threatened by one or more of their employer's workplace monitoring practices. If so, this could lead to negative reactions, such as feeling untrusted by their employer and fearing that their privacy is being invaded (Siegel et al., 2022). This reactance response could then lead to employee efforts to resist or defy the monitoring by participating in counterproductive behavior designed to restore their autonomy (Thiel et al., 2022).

It is important to note that, according to PRT, the value employees place on the threatened or restricted freedom is an essential factor in predicting their response (Yost et al., 2019). For example, if employees are subjected to constant camera surveillance and feel it threatens their autonomy, they are likely to report feelings of privacy invasion and negative attitudes toward monitoring (Yost et al., 2019). However, if he or she is not overly concerned about the particular freedom being threatened (for example, being told that their work-related email correspondence is being monitored), they are less likely to experience reactance and its negative effects (Brehm & Brehm, 1981). Therefore, in this context, for employees to feel reactance in response to camera or keyboard monitoring, they must perceive that an important freedom (in this case, their personal privacy) is threatened; and their resulting reactance will impact their attitudes about this type of monitoring.

Privacy Concerns

Previous studies examining the effect of privacy concerns from the perspective of PRT demonstrate that perceived threats to privacy will stimulate reactance and motivate the individual to restore their autonomy by whatever means possible (Yost et al., 2019). Westin (1992) defined privacy in an organizational setting as the ability for individuals to control if and how their personal information is shared with others. Alge et al. (2006) conceptualized workplace privacy as "the degree of control that an organization affords its employees over practices relating to collection, storage, dissemination, and use of their personal information (including their behaviors) and the extent that such practices are perceived as legitimate" (p. 221). Thus, while an employer may be entitled to monitor workers as part of the employment contract, most employees have established attitudes and expectations regarding how they (and their private information) are to be managed during the course of their work (ResumeBuilder.com, 2023).

Alge (2001) noted that the relevance of the activities an employer monitors has a strong relationship with the perceived risks associated with the monitoring by employees. Specifically, the less applicable the type of monitoring is to an employees' work productivity, the more invasive and threatening it is perceived to be. With a greater number of employees working remotely since the pandemic, the boundary between business and personal activities has blurred as people are spending considerable time on employers' equipment and digital networks, including during evenings and weekends (West, 2021). Therefore, the opportunity for a monitored employee's personal information to be collected and tracked by keyboard and video camera monitoring is greater than ever. For organizations looking to decrease deviant behavior and enhance productivity, keyboard and camera monitoring can be beneficial; however, their presence may also threaten employees' sense of autonomy and privacy (Ramasundaram et al., 2022); and negatively impact their attitudes toward such monitoring (Vitak & Zimmer, 2023b).

Yost and colleagues (2019) demonstrated that when people perceive EPM to be an invasion of their privacy, they are more likely to experience reactance. This finding supports the importance of privacy concern from the perspective of Psychological Reactance Theory, in that privacy is seen by many people as an important freedom worth protecting. Findings from these studies and the predicted responses to EPM based on PRT suggest the first set of hypotheses:

H1: Greater perceived risks associated with keyboard and camera monitoring will be positively associated with employee privacy concerns.

H2: Greater perceived privacy concerns will be positively associated with psychological reactance.

H3: Greater psychological reactance will be negatively associated with attitude toward monitoring.

Benefits of EPM for Employees

Although the advantages of emerging EPM technologies are primarily focused on employers, there can be significant benefits to employees as well. In addition to clarifying performance expectations and providing personalized training and development (Wells et al., 2007), monitoring can enhance communication between co-workers (Formica & Sfodera, 2022), increase employee perceptions of equity and accountability (Ravid et al., 2020) and increase job satisfaction (Adler & Ambrose, 2005; Ravid et al., 2022). According to a recent *New York Times* article, many employers are using EPM to better balance workloads between employees to ensure fairness and minimize burn out (Kantor & Sundaram, 2022). Empirical studies indicate that this form of workload management not only increases employee morale (Bartels & Nordstrom, 2012; Gichuhi et al., 2016), but can also lower stress by allowing employees to focus on priority tasks (Dasgupta, 2013; Vitak & Zimmer, 2023a).

Perhaps the greatest benefit associated with monitoring for employees is the increased freedom to work remotely. According to the Pew Research Center, 59% of U.S. workers who say their jobs can mainly be done from home are working from home all or most of the time (Parker et al., 2022). Reasons cited for choosing a remote working arrangement include finding it easier to achieve a work/life balance (64%) and the ability to more readily meet deadlines (44%). Moreover, 72% of those surveyed said working from home has not affected their ability to advance in their career. Recent empirical studies indicate that employees recognize that electronic monitoring is critical to their employers' continued acceptance of remote work in the post-pandemic workplace (Kropp, 2019; Wang et al., 2020); and for many remote workers, this highly valued benefit justifies the need for EPM (Pianese et al., 2023; Ravid et al., 2020; Wells et al., 2007).

That said, Yost and colleagues (2019) noted that both trait reactance (attributed to individual personality differences) and state reactance (determined by the situation) influenced employees' response to electronic performance monitoring. Specifically, they assert that the level of reactance experienced by a monitored employee is a function of the magnitude of the threat and its interaction with the importance of the freedom to the individual. Given that multiple studies that indicate that the ability to work remotely is considered a highly valued benefit to employees (American Management Association, 2009; Griffin, 2020; Parker et al., 2022; Statista, 2021), it is likely that the reactance experienced by some monitored employees will be inversely related to the level of the perceived benefits associated with the monitoring. These findings suggest the next hypothesis:

H4: Greater perceived benefits associated with keyboard and camera monitoring will be negatively associated with psychological reactance.

Stakeholders Privacy Calculus Model (SPCM)

In light of the perceived benefits and risks associated with EPM, it is likely that employees weigh both of these factors when determining their attitudes about workplace monitoring. The Stakeholders' Privacy Calculus Model (Bhave et al., 2020) recognizes that individuals are willing to surrender a certain degree of privacy in exchange for outcomes that are perceived to be worth the risk, and explains how this process unfolds in the workplace. The SPCM identifies the relevant stakeholders of privacy in the workplace, including employees, employers, the state, and society at large; and then considers the privacy calculus of each stakeholder. For employees, the model suggests two pathways that shape their privacy calculus—the *direct* pathway (which considers the risks and benefits influenced by *individual* factors), and the *indirect* pathway (which is influenced by *external* factors, including the context of the privacy disclosure, and the organization's role in the process).

The first step in an employee's privacy calculus involves their individual perceptions of the risks and benefits associated with disclosure of their personal information in the workplace. Extant research has demonstrated that individual privacy preferences directly influence privacy calculus decision-making outcomes in multiple contexts, including e-commerce (Dinev & Hart, 2006), social media disclosure (Hayes et al., 2021), receptivity to personalized advertising offers (Brinson et al., 2019), and the use of self-tracking apps (Lünich et al., 2021). Thus, evidence exists that employees' internal perceptions of the risks and benefits associated with electronic workplace monitoring are foundational to their attitudes about such practices.

Turning to external factors, SPCM purports that employees will also consider the context of the disclosure in making their privacy calculus—that is, the type of information to be gathered, as well as the employer's purpose in asking the employee to share that information. One study found that explaining the scope and purpose of monitoring can boost employees' acceptance of the practice by nearly 70% (Kropp, 2019). Additionally, Bondar et al. (2022) found that employees' also weigh their perceptions about the trustworthiness of their employer when forming their attitudes about monitoring. Their results indicate that employees respond more favorably when leaders communicate openly and transparently about what data will be collected, and when they trust that it will be used only for the purpose intended.

Role of Trust

Trust has been shown to be an important moderator in the relationship between perceived risk and satisfaction in other contexts (Chen et al., 2015); and evidence suggests that trust plays a critical role in employees' perceptions of monitoring practices in the workplace as well. Gambetta (2000) generally defined trust as "the trustor's subjective probability about whether the trustee will perform a particular action that benefits the trustor" (p. 215). In an organizational setting, Tzafrir & Dolan (2004) defined it as "a willingness to increase one's resource investment in another party, based on positive expectation, resulting from past positive mutual interactions" (p. 116). They further assert that there are three underlying dimensions of organization trust—*reliability*, *concern*, and *harmony*. Each of these factors has a demonstrated connection to employees' attitudes about electronic monitoring.

First, *reliability* in the workplace implies systematic and consistent procedures and behaviors, wherein all parties fulfill promises and commitments to each other (Butler, 1991). Given the shift toward greater electronic monitoring in the workplace, the accuracy and reliability of the technologies recording employee activities plays a role in establishing trust in this context (Shilton et al., 2021). *Concern* involves compassionate motives, wherein an individual's self-interest is balanced by an interest in the welfare of others (Mishra, 1996). This element of trust suggests that if employers promote monitoring as a way to not only improve employees' work performance, but also to enhance their overall quality of life, employees are more likely to view it as a beneficial part of their job. Finally, *harmony* in this context suggests "a combination of abilities, feelings, opinions, purposes, and values inside the employment relationship system that integrates activities, such as establishing collective identity, creating joint goals, and committing to commonly shared values" (Tzafrir & Dolan, 2004, p. 127). A recent survey suggested that some forms of employee monitoring were considered beneficial to building workplace harmony since they facilitated communication and enhanced camaraderie between co-workers (ResumeBuilder.com, 2023).

Given these examples of how employee monitoring can enhance reliability, concern, and harmony, it should enhance trust in the workplace. However, other studies (e.g., Ali et al., 2022; Botan & Vorvoreanu, 2005; Tepper, 2000) demonstrate that electronic monitoring that is considered excessive, risky, or punitive can destroy trust on

both sides of the management-worker relationship. First, if employers do not trust their employees, they may view monitoring as a necessary tool to enforce compliance or detect misconduct. This can lead to more intrusive monitoring practices that may be perceived as threatening or invasive by employees (Sannon et al., 2022). For employees, perceptions of excessive or unnecessary monitoring can trigger increased privacy concern and reactance, which can result in poorer performance and a loss of trust in the employer (Brown et al., 2015; Jensen & Raver, 2012; Kalischko & Riedl, 2023; Kayas et al., 2019; Stanton & Weiss, 2000).

Adding another layer of complexity to the establishment of trust in the modern workplace is the increased trend toward remote work, which affords fewer opportunities for in-person interaction between employees and supervisors. This arrangement often leads to an overreliance on electronic monitoring data, which not only heightens perceived privacy risks for employees, but disrupts the flow of important non-verbal communication between employer and employee (Bonaccio et al., 2016). In remote work situations, electronic monitoring often acts as the sole proxy for determining an employee's competence, commitment to organizational goals, and dependability, which are foundational to establishing an employer's trust (Ball, 2021). Depending on how electronic monitoring is configured, employees may feel that their performance is not being accurately recorded, leading employers to question their competence, commitment, and dependability. Indeed, findings from one study suggested that even individuals with a greater propensity to trust technology were still sensitive to the associated risks, and experienced lower situational trust (Pyke et al., 2022).

These studies demonstrate that trust is a key factor shaping both employees' and employers' attitudes about monitoring in the workplace, suggesting the next set of hypotheses for this study:

H5: Greater perceived risks associated with keyboard and camera monitoring will be negatively associated with employer trust.

H6: Greater perceived benefits associated with keyboard and camera monitoring will be positively associated with employer trust.

H7: Greater employer trust will be positively associated with attitude toward monitoring.

Job Satisfaction

Locke (1976) defined job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1304). Other scholars note that job satisfaction encompasses an employee's sense of achievement and success on the job (Kaliski, 2007); and that it is directly linked to productivity as well as to personal well-being (George & Jones, 2008). Spector (1997) points to two important indicators of job satisfaction that relate directly to workplace monitoring. First, employees desire to work for organizations that prioritize human values, which means treating them fairly and with respect (Bondar et al., 2022). As such, their job satisfaction may be impacted if they feel that their employer's monitoring practices do not treat them fairly or respect their personal privacy boundaries. Second, employee job satisfaction directly affects the functioning and productivity of an organization's business. A recent meta-analysis indicated that if the perceived risks associated with monitoring trigger reactance among employees, employees may engage in unproductive activities in order to restore the threatened freedoms (Siegel et al., 2022). This, in turn, can lead to lower job satisfaction (Alge & Hansen, 2014; Nesterkin, 2013; Ravid et al., 2022). Indeed, a recent study revealed that monitored employees were substantially more likely to take unapproved breaks, disregard instructions, damage workplace property, steal office supplies, and purposefully work at a slower pace than those who were not monitored by their employer (Thiel et al., 2022).

However, in those cases where the perceived benefits of monitoring outweigh the risks (and some level of trust in the employer is established), monitoring can motivate employees to invest more effort in the performance of required tasks (Staats et al., 2017) and report greater job satisfaction (Burnett & Lisk, 2019; Ravid et al., 2022). Among the key benefits associated with systems designed to monitor employees is the ability to better manage procrastination and distribute workload (Wang et al., 2020), a heightened sense of fairness and mutual accountability (Wells et al., 2007), and enhanced engagement and collaboration in groups whose members are geographically dispersed (Beauregard et al., 2019). Each of these studies demonstrate that an employee's perceptions of the risks and benefits of workplace monitoring will have a direct impact on their attitudes toward monitoring and their job satisfaction. Specifically, when perceived as beneficial by the employee, workplace monitoring can increase motivation (Staats et al., 2017) and satisfaction (Ravid et al., 2022; Wells et al., 2007); but

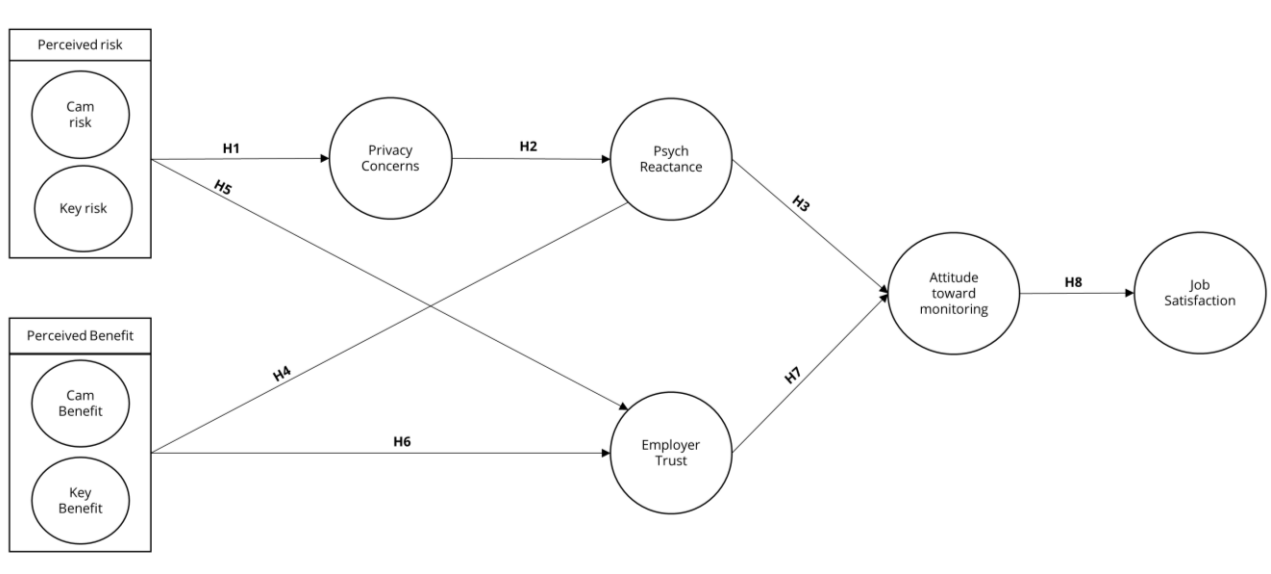
when perceived as personally threatening or risky, the likely outcome is added stress (Kalischko & Riedl, 2023; Ramasundaram et al., 2022) and decreased job satisfaction (Alge & Hansen, 2014; Becker & Marique, 2014).

This study examines employees' perceptions of the risks and benefits of camera and keyboard monitoring through the construct of employee trust, which serves as a comprehensive measure of employees' attitudes towards monitoring. This construct encompasses both the perceived risks and benefits, providing a nuanced understanding of how workplace monitoring is evaluated by employees, as well as how it affects their job satisfaction, suggesting the final hypothesis for this study:

H8: Attitude toward monitoring will be positively associated with job satisfaction.

Taken as a whole, this study proposes that the identified variables influencing job satisfaction among monitored employees are working in tandem as demonstrated in Figure 2.

Figure 1. A Conceptual Model.



Methods

Study Design and Procedures

This study employed a cross-sectional survey design to investigate how employee monitoring and surveillance practices impact employee job satisfaction, both directly and indirectly due to privacy concerns and employer trust. Following approval from the Institutional Review Board (IRB), data collection began in January 2023 and was completed within 16 days. Random sampling was used to recruit participants through Prolific Academic, an online survey platform. Once informed consent was obtained from the participants, those who met the inclusion criteria were asked to complete an online survey that contained a series of closed-ended questions and provide information about their personal and household demographics. Each respondent who completed the survey was paid \$3.75 by Prolific Academic.

Participants

The initial respondent pool included 889 U.S. adults who met the inclusion criteria of being over the age of 18 and currently monitored in their work environment by either their keyboard activity or video camera. Because the majority of respondents reported that they were subject to both forms of monitoring concurrently, those who were only subject to one or the other were eliminated from the sample for consistency. To further enhance the validity and reliability of the data, the survey included two attention check questions, and all responses were carefully reviewed to identify and address outliers, inconsistencies, and/or patterns in the data that indicate response errors or bias. After completing these data cleaning procedures, 633 participants were included in the final sample. Table 2 contains the demographic characteristics of the sample.

Measures

To capture employees' perceptions about monitoring in the workplace, this study measured the key constructs of Perceived Risks, Perceived Benefits, Employer Trust, Privacy Concerns, Psychological Reactance, Attitude toward Monitoring, and Job Satisfaction. For each of these established scales, respondents indicated their agreement on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A series of questions about respondents' demographics were also included.

Perceived Risks were measured separately for camera and keyboard monitoring using 11 items from Jarvenpaa et al. (1999). *Perceived Benefits* were measured separately for camera and keyboard monitoring using nine items adapted from Statista (2021). *Privacy Concerns*: four items from (Alge et al., 2006) measured employees' level of privacy concern in the workplace. *Psychological Reactance*: three items from Brown et al. (2015) were adapted to measure employees' level of psychological reactance about monitoring activities in the workplace. *Employer Trust*: 13 items from Tzafrir and Dolan (2004) were adapted to measure employees' trust in their employers. *Attitude toward Monitoring*: five items adapted from Nickell and Pinto's (1986) Computer Attitude Scale were used to measure employees' general attitudes toward computer monitoring in the workplace. *Job Satisfaction*: five items were adapted from Spreitzer's (1995) scale on Employee Psychological Empowerment to measure employees' level of job satisfaction.

The internal consistency of all measures was assessed using Cronbach's alpha coefficients, which ranged from .86 to .97, indicating high reliability as shown in Table 4. Table 4 provides the means and standard deviations of each survey item, and Table 1 provides for the correlation matrix among the variables.

Table 1. Correlation Matrix.

	AttM	CamB	CamR	JbStsf	KeyB	KeyR	OgPrv	PsyRe
AttM	1.0							
CamB	.202	1.0						
CamR	.038	.806	1.0					
JbStsf	.438	.116	-.019	1.0				
KeyB	.247	-.022	-.073	.183	1.0			
KeyR	-.279	-.122	-.076	-.137	.616	1.0		
OgPrv	-.524	.012	.17	-.356	-.061	.374	1.0	
PsyRe	-.307	-.12	-.026	-.202	-.069	.175	.396	1.0
Trst	.427	.048	-.104	.574	.181	-.16	-.514	-.305

Note. AttM: Attitude towards Monitoring; CamB: Camera Benefit; CamR: Camera Risk; JbStsf: Job Satisfaction; KeyB: Key Benefit; KeyR: Key Risk; OgPrv: Organizational Privacy; PsyRe: Psychological Reactance; Trsr: Trust.

Table 2. Participant Demographics.

Gender	
Identify as female	47.23%
Identify as male	51.04%
Other	1.74%
Age	
Less than 24 years old	6.48%
25–34 years old	36.78%
35–44 years old	27.62%
45–54 years old	15.63%
55–64 years old	11.22%
More than 65 years old	2.21%
Race	
White/Caucasian	71.10%
Asian	8.86%
African American	9.79%
Hispanic/Latino	6.64%
Native Hawaiian/Pacific Islander	0.63%
American Indian/Alaska Native	0.32%
Other	2.68%
Education Degree	
Bachelor’s Degree	51.84%
Some college but no college degree	22.91%
Graduate Degree	19.26%
High school graduate	5.53%
Some school but no degree	0.47%
Household Income Level (per year)	
More than \$150,000	13.92%
\$100,000–\$149,999	19.92%
\$50,000–\$99,999	34.61%
Less than \$49,999	26.38%
Employment Type	
Gray collar (ex: education/training, healthcare, sales)	83.74%
Blue collar (ex: manual labor)	7.58%
Pink collar (ex: retail, food and beverage, and entertainment)	2.99%
White collar (ex: office setting)	3.63%
Other	2.05%
Employment Status	
Full-time permanent	83.07%
Part-time permanent	11.68%
Freelance/contract/seasonal	0.79%
Full-time temporary	1.90%
Other	2.53%
Work Duration	
More than 20 years	2.21%
15–20 years	4.11%
10–15 years	7.74%
6–10 years	21.64%
1–5 years	55.08%
Less than one year	9.16%

Results

A structural equation model (SEM) with Partial Least Squares (PLS) analysis was conducted using SmartPLS 4.0 to examine the relationships between the variables of interest and test the hypotheses. The PLS-SEM method was used to evaluate both the measurement and structural models in this study, as the theoretical framework of this study is complex and includes reflective and composite constructs.

Assessment of the Measurement Model

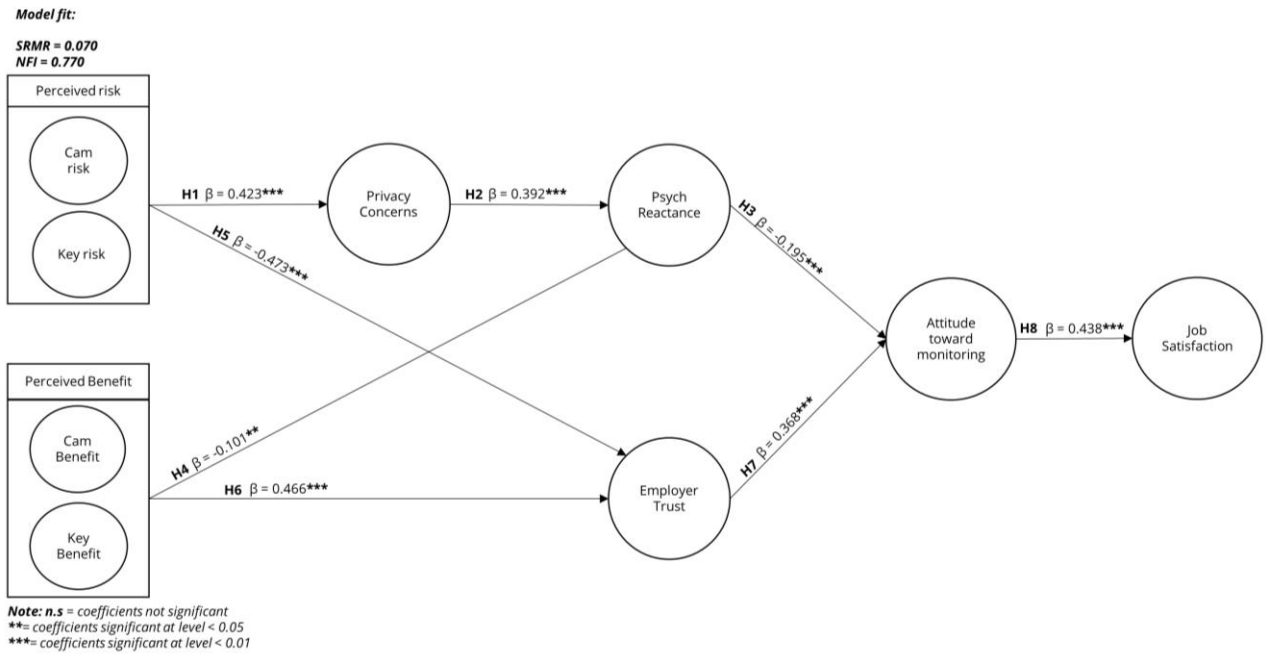
The first step was to ensure the reliability and validity of the reflective constructs, including Privacy Concerns, Psychological Reactance, Attitude Toward Monitoring, Job Satisfaction, and Employer Trust; as well as the reflective dimensions of Risks (a composite of keyboard and camera risks) and Benefits (a composite of keyboard and camera benefits), based on the approach proposed by Rasoolimanesh et al. (2019). The reliability and convergent validity of the reflective measurement models were assessed using criteria suggested by Hair et al. (2020), including an outer loading of at least 0.40 as indicative of reliability and convergent validity. Composite reliability (CR) and Cronbach's alpha, with values above .70, and average variance extracted (AVE), with values exceeding 0.50, were also evaluated. Results, as presented in Table 4, showed that all constructs met these threshold values, indicating that they are reliable and valid. Discriminant validity was assessed using the heterotrait-monotrait (HTMT) method, with correlation ratios below .90, preferably below .85, indicating good or best level of discriminant validity, as suggested by Henseler et al. (2015).

Assessment of the Structural Model

Next, the structural model incorporating the proposed hypotheses was analyzed using bootstrapping with 5,000 sub-samples. As shown in Table 3 and Figure 2, results reveal that for Risks were significantly and positively associated with Privacy Concerns ($\beta = .42, p < .001, t = 12.67$), so H1 was supported. Similarly, Privacy Concern was significantly and positively associated with Psychological Reactance ($\beta = .39, p < .001, t = 10.89$), therefore H2 was supported. Likewise, Psychological Reactance was significantly and negatively associated with Attitude toward Monitoring ($\beta = -.19, p < .001, t = 4.90$), therefore H3 was supported.

Turning to how perceived benefits and employer trust impacted the model, results indicate that Benefits had a small but significant correlation with Psychological Reactance ($\beta = -.10, p < .001, t = 2.04$), therefore H4 was not supported. Also, Risk was significantly and negatively associated with Trust ($\beta = -.47, p < .001, t = 7.79$) as predicted, so H5 was supported. Also, Benefits were significantly and positively associated with Trust ($\beta = .46, p < .001, t = 7.04$); and Trust was significantly and positively associated with Attitude toward Monitoring ($\beta = .36, p < .001, t = 10.73$), supporting H6 and H7. Finally, Attitude towards Monitoring was significantly and positively associated with Job Satisfaction ($\beta = .43, p < .001, t = 13.32$), therefore H8 was supported.

Figure 2. Hypotheses Results.



Overall, findings indicated a good fit of the model (SRMR = .070, NFI = .770), and the combined effect (R^2) of the variables in the model predicted 21.7% of the variation in Attitude Toward Monitoring and 19.2% of the variation in Job Satisfaction.

Table 3. Structural Model Assessment: Hypothesis Testing.

Hypotheses	Path Coefficient	STDV	T statistics	p values
H1: Risk → Privacy Concern	0.423	.033	12.666	< .001
H2: Privacy Concerns → Psychological Reactance	0.392	.036	10.888	< .001
H3: Psychological Reactance → Attitude towards Monitoring	-0.195	.040	4.901	< .001
H4: Benefit → Psychological Reactance	-0.101	.050	2.038	.021
H5: Risk → Trust	-0.473	.061	7.792	< .001
H6: Benefit → Trust	0.466	.066	7.036	< .001
H7: Trust → Attitude toward Monitoring	0.368	.034	10.731	< .001
H8: Attitude towards Monitoring → Job Satisfaction	0.438	.033	13.320	< .001

Table 4. *Survey Items, Construct Reliability and Validity.*

Variables	Survey items	Items	M	SD	Loadings	Cronbach's Alpha	CR	AVE
Keyboard Risk (reflective)	Keyboard activity tracking threatens my freedom to choose	KT1	2.190	2.502	.941	.990	.991	0.91
	Keyboard activity tracking makes me feel manipulated	KT2	2.286	2.631	.950			
	Keyboard activity tracking impacts my decision making	KT3	2.395	2.674	.958			
	Keyboard activity tracking creates added pressure on me	KT4	2.573	2.839	.918			
	Keyboard activity tracking is annoying	KT5	2.717	2.943	.959			
	Keyboard activity tracking makes me feel angry	KT6	2.043	2.424	.972			
	Keyboard activity tracking makes me feel violated	KT7	2.212	2.559	.923			
	It is risky to allow my employer to track my keyboard activity	KR1	1.954	2.299	.963			
	There is too much uncertainty associated with allowing my employer to track my keyboard activity	KR2	2.122	2.466	.959			
	Providing my employer with my keyboard activity involves many unexpected problems	KR3	2.047	2.375	.962			
I feel safe allowing my employer to track my keyboard activity	KR4	2.065	2.430	.970				
Camera Risk (reflective)	Camera monitoring threatens my freedom to choose	CT1	0.464	1.448	.957	.993	.994	.96
	Camera monitoring makes me feel manipulated	CT2	0.468	1.46	.971			
	Camera monitoring impacts my decision making	CT3	0.483	1.505	.964			
	Camera monitoring creates added pressure on me	CT4	0.542	1.648	.925			
	Camera monitoring is annoying	CT5	0.578	1.725	.974			
	Camera monitoring makes me feel angry	CT6	0.431	1.376	.981			
	Camera monitoring makes me feel violated	CT7	0.485	1.508	.964			
	It is risky to allow my employer to monitor me on camera	CR1	0.436	1.356	.977			
	There is too much uncertainty associated with allowing my employer to monitor me on camera	CR2	0.464	1.434	.969			
	Allowing my employer to monitor me on camera involves many unexpected problems	CR3	0.472	1.431	.973			
I feel safe allowing my employer to monitor me on camera	CR4	0.447	1.382	.984				
Keyboard Benefit	By tracking my keyboard activity, my employer can reward my productivity	KB1	1.889	2.27	.948	.980	.982	.86
	my employer can help those who have heavy workloads	KB2	1.703	2.124	.937			
	my employer can punish slackers	KB3	2.577	2.738	.843			
	my employer can improve communication among coworkers	KB4	1.945	2.31	.922			
	my employer can ensure quality control	KB5	2.318	2.624	.955			
	my employer can protect confidential information	KB6	2.201	2.552	.923			

	my employer can maintain safety and security	KB7	2.254	2.598	.936			
	my employer can provide developmental feedback to me	KB8	1.921	2.325	.947			
	my employer allow me the freedom to work remotely	KB9	2.122	2.476	.935			
	By tracking my keyboard activity, my employer can reward productivity	CB1	0.498	1.525	.979			
	my employer can help those who have heavy workloads	CB2	0.425	1.365	.957			
	my employer can punish slackers	CB3	0.564	1.681	.931			
Camera Benefit (reflective)	my employer can improve communication among coworkers	CB4	0.453	1.442	.952			
	my employer can ensure quality control	CB5	0.572	1.71	.978	.990	.991	.92
	my employer can protect confidential information	CB6	0.502	1.549	.958			
	my employer can maintain safety and security	CB7	0.578	1.721	.977			
	my employer can provide developmental feedback to me	CB8	0.515	1.584	.976			
	my employer allow me the freedom to work remotely	CB9	0.485	1.5	.941			
	I feel that my employer's information policies and practices are an invasion of privacy.	OP1	3.589	1.81	.918			
Privacy Concerns (reflective)	I feel uncomfortable about the types of personal information that my employer collects.	OP2	3.615	1.847	.927			
	The way that my employer monitors employees makes me feel uneasy.	OP3	3.869	1.915	.934	.950	.964	.87
	I feel personally invaded by the methods used by my employer to collect personal information.	OP4	3.738	1.919	.948			
	The thought of being dependent on others at work aggravates me.	PR1	4.239	1.675	.791			
Psychological Reactance (reflective)	I become frustrated when I am unable to make independent decisions at work.	PR2	4.689	1.642	.896	.851	.900	.69
	I become angry when my freedom of choice is restricted at work.	PR3	4.415	1.665	.905			
	Computer monitoring is an efficient means of ensuring work productivity	ATM1	3.997	1.855	.868			
Attitude Toward Monitoring (reflective)	Work life is easier with computer monitoring	ATM2	3.025	1.701	.878			
	Computer monitoring can enhance our standard of living	ATM3	2.961	1.69	.883	.891	.920	.71
	Computer monitoring is dehumanizing to society	ATM4	3.415	1.788	.777			
	Computer monitoring is responsible for many of the freedoms hybrid employees enjoy	ATM5	3.629	1.763	.763			
	I have a large impact on what happens in my department.	JS1	4.175	1.797	.749			
Job Satisfaction (reflective)	I have significant influence over what happens in my department.	JS2	4.079	1.834	.726	.899	.926	.72
	The work I do is very important to me.	JS3	5.098	1.725	.915			

	My job activities are personally meaningful to me.	JS4	4.978	1.785	.919			
	Overall, the work I do is worthwhile to me.	JS5	5.18	1.715	.903			
Employer Trust (reflective)	Employees' needs and desires are very important to my manager(s).	TR1	4.709	1.655	.868			
	I can count on my manager(s) to help me if I have difficulties with my job.	TR2	5.131	1.616	.881			
	Managers at my company would not knowingly do anything to hurt the employees.	TR3	5.03	1.617	.840			
	My managers are open and up front with me.	TR4	5.032	1.652	.901			
	My managers will keep the promises they make.	TR5	4.836	1.593	.906			
	My managers really look out for what is important to our employees.	TR6	4.777	1.67	.930			
	My managers are knowledgeable about the work that needs to be done.	TR7	5.513	1.455	.810	.971	.974	.74
	My managers are known to be successful in the things they attempt to accomplish.	TR8	5.428	1.428	.824			
	If I make a mistake, my managers are willing to forgive and forget.	TR9	5.003	1.52	.818			
	My managers take actions that are consistent with their words.	TR10	5.174	1.561	.894			
	There is a lot of warmth in the relationships between the managers and employees in my organization.	TR11	4.543	1.715	.866			
	My managers would make personal sacrifices for our group.	TR12	4.371	1.692	.805			
	My managers express their true feelings about important issues.	TR13	4.798	1.595	.853			
					Outer Weight	CI_BC 5.0%; 95.0%	VIF	
Risk (formative/ composite)		CR		.380		.263; .617	1.006	
		KR		.893		.833; .992	1.006	
Benefit (formative/ composite)		CB		.474		.106; .798	1.000	
		KB		.870		.615; .998	1.000	

Discussion

The purpose of this study was to examine the perceived risks and benefits associated with workplace monitoring (specifically via computer keyboard and camera) to enhance understanding of how these factors influence employees' privacy concerns, trust in their employer, and ultimately, their job satisfaction. Findings clearly demonstrate that the key tenets of psychological reactance and shareholder's privacy calculus are at work in the context of employee monitoring. They also suggest some useful insights for employers who are currently monitoring (or considering monitoring) their employees, and point to important areas for future research.

First, results indicate that employees are well aware of the risks associated with keyboard and camera monitoring, and chief among them are their personal privacy concerns. Although perceived threats to freedom, added pressure, frustrations over the loss of decision making, and uncertainty about reporting accuracy were all considered potential risks, concerns about invasion of privacy were associated with a sizable and positive effect (.42) among respondents in this study. This finding is supported by previous research demonstrating that employees are apprehensive about the risks associated with employers monitoring their communications and activities (e.g., Alge, 2001; Ball, 2021; Chory et al., 2016; West, 2021); and this apprehension is contributing to heightened privacy concerns (Vitak & Zimmer, 2023a; Yost et al., 2019), psychological reactance (Ravid et al., 2020), and lower trust in their employer (Brown et al., 2015; Jensen & Raver, 2012; Kalischko & Riedl, 2023).

Psychological reactance theory posits that the amount of reactance experienced by an individual is a function of the magnitude of the threat and the importance of the freedom being threatened. Results from this study indicate that privacy concerns related to keyboard and camera monitoring were associated with a sizable reactance effect (.39) among respondents. Previous research has shown that negative reactions to monitoring can be particularly strong when the threat to the employee's autonomy is perceived as unjust or illegitimate (Ravid et al., 2020; Vitak & Zimmer, 2023a). Whether respondents in this study felt that their employer's monitoring practices were unjust or not is uncertain; but their privacy concerns were highly correlated with their reported reactance. This finding should raise concerns for employers since high levels of reactance have been shown to lead to various forms of employee resistance (such as cyberloafing and quiet quitting), as well as other forms of counterproductive work behavior (Thiel et al., 2022; Yost et al., 2019).

Results also indicate that higher levels of reactance were negatively associated with respondents' attitudes toward their employer monitoring their activities, and these attitudes had a significant and sizable correlation (.44) with job satisfaction. That said, trust in their employer also had a significant influence on employees' attitude toward monitoring, and this positive correlation (.37) was greater than the negative association caused by their reactance (.20). Taken in tandem, these findings suggest that employees are indeed weighing the perceived risks and benefits of keyboard and camera monitoring by their employer as suggested by the Stakeholders' Privacy Calculus Model (Bhave et al., 2020). Specifically, employees are considering the *direct* benefits and risks (including privacy invasion) associated with keyboard and camera monitoring for themselves individually, but their attitudes are also being influenced by external factors (including trust in their employer) via an *indirect* pathway.

Interestingly, results indicated that the benefits of monitoring were positively correlated with participants' psychological reactance to camera and keyboard monitoring, although the effect size was small (.10). This outcome could be explained by a number of factors. First, the perceived value of the different benefits weighed in the privacy calculus is known to vary among individuals (Kim et al., 2019; Y. Sun et al., 2015). Likewise, psychological reactance has also been shown to vary among individuals based on their personality characteristics (Brehm & Brehm, 1981). The counter influence of these two factors among individual participants may have contributed to the weak reactance effect associated with perceived benefits of monitoring in this study. It is also possible that employer trust was an important moderator of reactance among respondents in this study, and that any effect associated with the perceived benefits of monitoring were overshadowed by trust. This assumption is supported by the finding that perceived benefits had a significantly positive correlation with trust (.46); and perceived risks had a significantly negative correlation with trust (.47), and this effect was comparable in magnitude. When considered together, these relationships indicate the power of trust in countering the negative effects associated with employee monitoring.

Theoretical Implications

This study not only contributes to the employer trust and data privacy literature streams, but also suggests a potential extension of Psychological Reactance Theory in the context of workplace monitoring. Ravid et al. (2020) posited that “much is still unknown about how EPM characteristics may interact to affect individual reactions” (p. 114), and called for future research to address the psychological characteristics associated with new technologies in the workplace as well as the interactive effects surrounding electronic performance monitoring. Findings from this study offer insights related to both of these areas.

First, by identifying that employees' reactance to workplace camera and keyboard monitoring is rooted in their personal privacy calculus of the benefits and risks of such monitoring, this study suggests important new insights into the drivers of reactance to EPM and enhances understanding about individual privacy expectations in response to newer forms of monitoring technologies. This finding extends previous research which demonstrated that reactance to EPM is influenced by an individual's internal states and traits (Yost et al., 2019) and that individuals' assessments of the benefits and risks of sharing their personal information in the workplace vary based on their own personal privacy calculus (Bhave et al., 2020).

Secondly, the finding that employees' job satisfaction was influenced not only by their internal privacy calculus, but also by their external perceptions of employer trust demonstrates that individual reactions to EPM differ based on varying organizational characteristics. This interactive effect between internal and external factors suggests new insights into how EPM impacts employee satisfaction. Further evidence of this interactive effect was the unexpected finding that employees' reactance was positively associated with the perceived benefits of monitoring. This result appears to be motivated by an interaction between differences in the perceived value of the benefits of EPM among employees, varying levels of reactance based on individual privacy concerns, and respondents' perceptions of employer trust. While additional research into this line of research is warranted, the results of this study suggest important insights about theory-based psychological characteristics associated with new technologies as well as complex interactive effects surrounding EPM in the workplace.

Managerial Implications

The results of this study suggest that it is critical for employers to consider the potential consequences of monitoring employees via keyboard activity and camera surveillance before implementing such practices. This finding is supported by a previous study indicating that some employees chose to resign due to punitive monitoring and supervision (Tepper, 2000); while others experienced reactance and resisted their employers' directives through counterproductive work behavior (Formica & Sfodera, 2022; ResumeBuilder.com, 2023). Still others adopt risk mitigation strategies, including self-protective surveillance behaviors (such as video recording themselves with customers) in response to concerns associated with various forms of workplace surveillance (Sannon et al., 2022).

Interestingly, a recent meta-analysis found no relationship between electronic monitoring and performance, but a small positive relationship between monitoring and counterproductive work behavior (Siegel et al., 2022). Knowing that employees are performing their own privacy calculus related to the risks and benefits associated with EPM, employers need to strike a balance between monitoring activity that is essential to safety and productivity while respecting the privacy and trust of their workers. Organizations are encouraged to implement monitoring practices in a way that is respectful of employees' rights and concerns. Also, by demonstrating the benefits of EPM (such as enhancing productivity and organizational trust, providing helpful feedback related to employee development, ensuring equitable workload balance, facilitating communication and camaraderie among all stakeholders, and offering greater flexibility to remote workers), they may be more successful at enhancing their employees' job satisfaction.

Policy Implications

Currently, there are no federal laws that specifically regulate employee monitoring practices in the United States. However, some protections are offered by the Electronic Communications Privacy Act (ECPA), which prohibits the interception of non-business-related electronic communications without consent. Also, the National Labor Relations Act (NLRA) protects employees' rights to engage in certain protected group activities, such as discussing workplace conditions or organizing a union. Additionally, a few states (including California and Illinois) enacted

state privacy laws that offer some regulation of employee monitoring practices, but these have limited effect outside of these areas. That said, many larger employers have policies in place that standardize and govern their monitoring practices. These policies typically outline the types of monitoring that will be conducted, the reasons for such monitoring, and the measures that are taken to protect employee privacy.

The findings of this study suggest that concerns about monitoring are of mounting importance to many employees (particularly remote workers), and that current policies may not adequately address their concerns. Continued research about the types of monitoring that are being implemented by U.S. employers, along with the development of new policy safeguards designed to protect the privacy of surveilled workers would help ensure that these practices do not threaten employee-employer relations or dampen workplace productivity.

Limitations and Future Directions

One limitation of this study is that it only considered the effects of camera and keyboard monitoring. Future studies should consider other emerging forms of EPM and incorporate additional measures that could more fully contribute to that line of research. Secondly, there was no measure of how well monitoring practices were being communicated to employees included in the survey. Future research could explore the role of internal communication regarding monitoring practices in addition to how and when employees are able to provide feedback about it. Another possible limitation is that this study considered the perceptions of all types of monitored employees as a whole. Previous research indicates that employee response to surveillance may vary based on the characteristics of the individual's job (Yost et al., 2019). For example, jobs that are designed to be higher in autonomy (e.g., gray collar jobs, such as training and sales) may be associated with an expectation of minimal monitoring; while jobs that require workers to handle sensitive or classified information may be associated with higher surveillance expectations. Future studies examining the ways that job characteristics affect reactance and attitudes toward monitoring could provide useful insights for theory as well as practice.

Another limitation of this study is that its survey methodology relied on self-reported data from an online platform (Prolific), which may introduce bias into the findings. Future studies could benefit from incorporating in-person experimental measures, biometrics data, and/or triangulating data sources to enhance validity about employees' attitudes toward workplace surveillance. Finally, while this study provides insights about the perceptions of employee monitoring, it does not address how distractions caused by EPM could adversely influence productivity. Future studies might investigate the impact of workplace distractions caused by EPM (including employees' attempts to exploit their employer's monitoring system weaknesses) to offer a more detailed picture of monitoring's overall effects.

Conclusion

The trend towards heightened monitoring and datafication of employee behaviors, encompassing both work-related tasks and, albeit unintentionally, personal activities underscores the need for heightened scrutiny regarding the fairness and efficacy of such practices. Findings from this study indicate that monitoring employees through keyboard activity and camera surveillance is significantly associated with job satisfaction, both directly and indirectly. Thus, careful consideration must be given to the implementation of these practices to mitigate potential adverse outcomes.

Conflict of Interest

The authors have no conflicts of interest to declare.

Authors' Contributions

Nancy H. Brinson: Conceptualization, Methodology, Investigation, Writing-Original Draft, Writing-Review & Editing. **Bahareh Amini:** Software, Validation, Formal Analysis, Writing-Review & Editing, Visualization. **Laura L. Lemon:** Conceptualization, Writing-Original Draft, Writing-Review & Editing. **Claudia Bawole:** Investigation, Writing-Review & Editing.

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