


The Shape of Workbreaks to Come: Reframing Cyberslacking With Bossware and Artificial Intelligence

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ABSTRACT

For employees, work involves taking breaks as well as engaging in specific required duties, and sometimes that break taking is construed as “cyberslacking” by employers. After historical treatments of cyberslacking concepts, this article analyzes ways that artificial intelligence (AI) methodologies and the “bossware” platform genre are aiding management to counter the cyberslacking phenomena directly exhibited by employees or projected from previous activities and profiles. It contrasts straightforward “policing” methods that aim toward the identification of cyberslacking instances for selective punishment through surveillance, with “predictive cyberslacking” approaches that profile certain trends and patterns in employee behavior. Such identified inclinations can be used to engage or nudge workers into specific, individualized patterns of work and approved recreational or developmental activity. A medicalization-style approach is often used in bossware to entice employees toward particular mental health-themed activities (including mindfulness and meditation activities).

KEYWORDS

Artificial Intelligence, Autonomy, Cyberloafing, Ethics, Human Resources, Privacy, Remote Work, Surveillance

INTRODUCTION

Working for an employer involves more than just the immediate focus on assigned duties. It also includes managing distractions and taking breaks, the timing and content of which are sometimes construed as inappropriate by managers. This article uses software platform mechanics analyses to examine the emerging genre of AI-enabled “bossware,” aiming to fill a critical theoretical gap found in bossware and cyberslacking literature. The article’s contributions include the development of a theoretical framework that articulates how bossware is involved in curbing cyberslacking through policing-style or through predictive-style approaches, the latter often involving some aspect of medicalization. The paper begins with a critical examination of managerial cyberslacking mitigation approaches for the past several decades. It continues with a theoretical analysis of policing-style cyberslacking mitigation, contrasting it with predictive approaches. The next section provides the results of a study of emerging AI-enabled bossware medicalization methods based on platform

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mechanics analyses, followed by a section that characterizes the role of coachbots and related AI tools in cyberslacking mitigation. The final section before the conclusion reviews the specific practical and managerial significance of this research.

“Cyberslacking” (or “cyberloafing”) is “typically defined as the use of Internet and mobile technology during work hours for personal purposes” (Vitak, Crouse, & LaRose, 2011). It can include such behaviors as unapproved technology-supported break taking, multitasking, and recreation, as well as forms of procrastination that are related to online distractions (Aalbers et al., 2022; Dewe & Cooper, 2017; Oravec, 2002). Other labels relating to cyberslacking have been coined. For example, Kim and Byrne (2011) identify the following terms: personal web usage (PWU), non-work-related computing (NWRC), problematic Internet use (PIU), and Internet addiction disorder (IAD). Haag and Eckhardt (2015) use the phrase “shadow IT usage” (2015, p. 241), and Martin et al., (2010) and Kiho (2018) write of “time banditry,” with some unauthorized breaks constituting a kind of theft against the organization involved. In the advent of expanded home and remote work (related to the 2020 COVID-19 pandemic), cyberslacking took on expanded dimensions beyond recreational activities, involving the employee’s responses to pressing utilitarian distractions such as package deliveries and children’s activities (Hoppe, 2022).

Bossware platforms incorporate various surveillance tools such as keystroke, webcam, social media, and email monitoring; detractors sometimes label the systems as “tattleware” (Cappelli, 2020). Bossware systems also increasingly include invasive employee data collection vehicles such as wearables and EEG (Ackerman & Strickland, 2022; Oravec, 2020), which facilitate the capture of intimate employee medical data. As outlined in this article, some emerging bossware systems attempt to soften the image of online managerial surveillance by involving wellness and recreation themes to “curb” cyberslacking while appearing to provide mental health support for the alleged cyberslacker (Hensel & Kacprzak, 2021, p. 219).

EVOLUTION OF ANTI-CYBERSLACKING POLICING INITIATIVES

Cyberslacking has been identified as a concern in many kinds of organizations, especially as “audit cultures” have expanded demands for increased accountability for time and resource expenditures (Strathern, 2000). Corporations and governmental agencies (Burdin, Halliday, & Landini, 2020; Hussain, Thurasamy, & Malik, 2017) as well as educational institutions (Koay & Poon, 2022; Rahman & Muldoon, 2020) have taken on cyberslacking mitigation efforts. This article emphasizes examples of cyberslacking mitigation efforts from the US and UK, but international differences are also important to consider since cultural and political factors can affect how management construes and confronts cyberslacking phenomena (Liu & Zhang, 2022; Ugrin, Pearson, & Nickle, 2018). For example, governmental regulations often affect the kinds and lengths of work breaks that employees are afforded (Ward, 2022). Managers have focused a great deal of attention on cyberslacking since the beginnings of widespread organizational computer usage in the 1960s, so there are long legacies of efforts toward mitigation, with most efforts being of the “policing” variety, in which employees’ behaviors are monitored and specific instances of cyberslacking are identified (Oravec, 2022a). Two decades ago, reports that US businesses supposedly lost 178 billion dollars yearly on cyberslacking, along with other unsettling economic research and organizational anecdotes, intensified managerial efforts to control it (Vitak, Crouse, & LaRose, 2011).

Regulating and delimiting work breaks to precise extents was not possible in many workplaces before the advent of computing. Well before the proliferation of intelligent organizational technologies, coffee and cigarette breaks were normalized, as the addictive capacities of caffeine and nicotine were recognized by organizations; in some cases, recreational activities were even provided by management (Roy, 1959; Wolfenstein, 1951). De Certeau’s *le perruque* (the wig) non-work activities “may be as simple a matter as a secretary writing a love letter on company time” (1984, p. 26). In subsequent

decades, such workplace refreshment often had a considerable electronic component, especially in the context of ubiquitous personal computer (PC) access. Through the past decades, organizational administrators were called upon to mitigate the cyberslacking of workers which was often seen as problematic, whatever the extent (Kalejaiye & Hammed, 2021), often with strong moralistic, anti-theft themes in their efforts. Many individuals lost their jobs as their supposed abuses were uncovered through anti-cyberslacking policing efforts, and with the proliferation of illegal pornographic or copyrighted files (as with music collections in the era of Napster) considerable legal issues were sometimes at stake.

In early anti-cyberslacking approaches, the specific technological resource losses involved with computer time usage were often the major focuses of managerial concern. Computer-related resources were relatively scarce, and computer time was often rationed among organizational departments, with lost time perceived as serious damage. As personal internet and smartphone access has expanded, employees have been enabled to engage in cyberslacking without the use of company equipment (Misra et al., 2021), lessening the emphasis on the resource theft perspective. However, related security issues involving BYOD (“bring your own device”) strategies have emerged in which employees introduced new kinds of laptops and other equipment to existing organizational systems (Palanisamy, Norman, & Kiah, 2020). (The bossware-related problems with BYOD and non-company equipment are discussed later in this article.) Smartphones and other personal devices also became a factor, as smartphone prohibitions are difficult to enforce in workplace contexts (Chadi, Mechtel, & Mertins, 2022). A “second screen” problem arose as individuals became equipped to obtain their own personal digital distractions in ways that were often not immediately detectable by management. Employees’ attempts to feign work behavior so as to take a short break have migrated to remote contexts and new software platforms, including bossware (Stokel-Walker, 2020).

The 2020 COVID-19 pandemic moved an expanding share of work to off-site locations (Newbold et al., 2022), and the increase in “gig work” also extended the varieties of workplace locations and participants (Bunjak, Černe, & Popovič, 2021; Zhang et al., 2022). Constructions of cyberslacking have been in flux in the advent of remote work along with managerial approaches for containment and mitigation. For example, although formal workplaces as interaction sites have numerous natural distractions, the home and other remote locations can provide even higher levels of noise and disturbance, some that may be difficult to monitor and interpret; specialized home and remote location considerations would need to be taken into account in system design. Also, in home and remote contexts, on-site colleagues for everyday interaction and social modeling are generally missing and the AI-enabled bossware interventions described in an upcoming section can take on different, and potentially stronger roles than in face-to-face workplace settings.

Despite various workplace technology shifts, the “cyberslacking” notion has remained a force in many managerial considerations, bolstered by research that supposedly identifies its role in productivity losses (Alharthi et al., 2021). In a September 2022 survey of 1,250 US employers, six of ten employers with remote workers state that they require monitoring software for their employees; 88% of employers who monitor reportedly terminated employees after implementing monitoring software (Digital.com, 2023). Cyberslacking has often been construed as a kind of “time theft” that presumably decreases productivity, although its impact on productivity has generally been assumed rather than proven through empirical assessment; a recent negative characterization of cyberslacking is “a high-tech method for employees to shirk job duties while appearing to be working” (Pillai, 2022, para. 1). Even harsher administrative viewpoints toward cyberslacking have construed it in terms of its potential threats to computer security, since employees can introduce foreign elements into organizational computer systems (Luna et al., 2022). Khansa et al. (2017) state that “the more serious indiscretions that cyberloafers might commit at work, such as online gambling, viewing pornographic movies, or illegally accessing pirated material, can expose companies to potential legal and ethical liabilities, e.g., sexual harassment claims” (p. 142).

POLICING-STYLE VERSUS PREDICTIVE CYBERSLACKING MITIGATION

Straightforward “policing” methods that identify cyberslacking instances for selective containment or punishment were common in past decades, as outlined in the previous section. The kinds of detailed analyses that are required for prediction and mediation of cyberslacking behaviors were only infrequently applied to individual employees in these early years. In contrast, AI-enabled bossware systems that perform “predictive cyberslacking” are designed to produce the individualized activity pattern analyses that make for more precise identification of potential cyberslackers, in a manner comparable to various “predictive policing” initiatives in criminal justice arenas (Alikhademi et al., 2022; Perrot, 2017). With these analyses, employees’ input patterns over time are being used to generate models of employee engagement with workplace activity. For example, keystroke monitoring can reportedly produce insights as to whether employees’ workplace performances are flagging and forecast when they may soon take a break of some sort (Ulinskas, Woźniak, & Damaševičius, 2017). The use of artificial intelligence methodologies is often prominently promoted in these systems; for example, the bossware platform Prodoscore contends that with its “proprietary scoring system” it uses “Machine Learning, AI, & Natural Language Processing... to measure thousands of daily activity points across your core business applications to provide productivity intelligence... organizations can keep top contributors happy, identify team members who are struggling, pinpoint burnout before it’s too late, and replicate behaviors that lead to success” (<https://www.prodoscore.com/>). The proprietary capacities described by Prodoscore for producing these various psychological shifts in employees are not transparent nor supported by publicly-available research results.

The bossware-implemented capturing of information about employees sometimes has a castigatory and disciplinary tone, as exemplified by the platform name “ClockShark” (Decker, 2022). The CleverControl system has been described as “Maintain[ing] work discipline by detecting regular latecomers and slackers,” and RemoteDesk has been characterized as increasing the levels of “work-from-home obedience” (Corbyn, 2022). The following narrative conveys how an employee’s everyday tasks are shaped with such systems:

You wake up, help with family chores, then sit at your desk ready to work. As you open your laptop, an app connected to your company’s server asks you to log in and to switch on your webcam. Remote software takes a picture of you and your desktop. It will take screenshots of your workstation every 10 minutes. Another app will track your web browsing, online calls, social media posts, and even private messaging. This surveillance machinery is intended to provide you with the right incentives to maintain sufficiently high productivity: hours billed, lines of code written, videos produced. (Burden, Halliday, & Landini, 2020)

Proprietary bossware systems produce quantitative measures of employee activity, sometimes in the form of “productivity scores” and, in other cases, in the forms of “risk measures” that reportedly capture significant information about the threat to the organization imposed by the employee (Corbyn, 2022). The scientific support for the creation of these constructs (if any) is generally not available, although their acceptance and usage by managerial users can be quite high. Developers of the enaible [sic] platform describe its bossware system as being “designed by leadership experts,” although the experts are not identified (<https://enable.io/how-it-works/>). Use of these systems in dealing with cyberslacking often involves the detection of unscheduled breaks and unapproved activities, which can provide employers with ammunition for negative work reviews, as employees are selectively punished through opportunistic enforcement (Christian, 2021). Such managerial controls (with related punishments) are still common in many organizations, although some studies show that “punishing cyberloafers brings no effect on work-related computer use” (Hensel & Kacprzak, 2021). Some research shows that announcement of formal monitoring controls may make individuals feel they

are less personally responsible for their behavior, potentially leading to increases in cyberslacking (Khansa et al., 2017).

The labeling of employees as being “cyberslackers” or “cyberloafers” has had weights in job performance appraisals, and is having increased significance as employees face considerable recreational and utilitarian distractions in home and remote contexts (O’Neill, Hambley, & Bercovich, 2014; Christian, 2021). Managerially-constructed cyberslacker persona have been useful for many years as a way to congeal an assortment of behaviors and characteristics deemed negative; being construed as a cyberslacker can have adverse repercussions for employees in job reviews and continuing on-the-job stigma. Just as the “slacker” is generally considered in a pejorative light in workgroup settings (Suen, 2021), the cyberslacker is still often considered in moralistic terms of shame and guilt (Dewe & Cooper, 2017; Panek, 2014). Implementation of the cyberslacker persona can place employees in a syndrome of perpetual culpability, whatever AI-enabled wellness and motivational tools are used, since avoiding cyberslacking altogether would be an impossible ideal especially in home and remote settings where everyday, utilitarian demands are omnipresent. The notion of cyberslacking-related time theft is linked to strong ethical notions of how the employees’ work time is owned by the employer:

Time theft steals money as sure as someone picking your pocket. ... It is America’s biggest crime, and until its victims -- the owners and managers of American industry -- decide to do something about it, we’ll continue to be stolen blind. (Snider, 2002, p. 94)

Reinforcing these compelling time theft notions may be more feasible with the physical proximity of managers, colleagues, and other organizational supports. However, with employees at home or in remote locations, convincing them that monitoring news stories or watching a child during idle moments are indeed “time theft” can be a tougher sell, and the medicalization approaches described in the next section (which emphasize mindfulness and self-actualization) are an alternative way of lessening resistance to anti-cyberslacking efforts.

AI-ENABLED BOSSWARE MEDICALIZATION STRATEGIES

The current assortment of AI-enabled anti-cyberslacking initiatives are emerging at a time in which employee burnout and disengagement are reportedly increasing (Bunjak, Černe, & Popovič), with the disruptions associated with the 2020 pandemic and related remote work transitions partly involved. Cyberslacking has been identified as a symptom of such disengagement, though at times it is also seen as a gateway to more severe forms of employee-organization disconnection. The medicalizations that are implemented in some of the platforms (analyzed in this section) can be seen as remedies for these presumed psychological conditions, although they often rest on only tentative scientific foundations. Reconfiguring monitoring platforms in terms of the reinforcement of employee wellbeing and mental health may be useful to managers given the legislation that is emerging in some US states and European contexts concerning employee monitoring (Kaur et al., 2020).

The surveillance technology developer Emotiv describes its methodology for intimate employee surveillance as the “whole person approach to the workplace,” extending surveillance into every aspect of employees’ existence (<https://www.emotiv.com/>). The growing assortment of commercially-available bossware platform systems often have compassionate-sounding names such as “Humanity” and “Harvest Time” (Decker, 2022). Many of these systems are labeled as having AI-related components, including machine learning analysis and chatbot interaction capabilities. One example is enable [sic, with a small “e”], described in the following terms by its developers:

Introducing a new work experience for everyone. AI that dynamically learns how you work, unlocking the fullest potential of your work, inspiring like no other in the world...

Well-being: When you are happier at work, you are happier at life. enable gives you the tools you need to help you make healthy work choices to maintain a balanced work diet. (<https://enable.io/how-it-works/>, 2023)

Although they indeed involve employee monitoring, these bossware systems are often characterized as providing an alternative to monitoring, as in this Viva Insights description:

One antidote may be to use A.I. for employee self-development rather than monitoring them. Microsoft's Viva Insights, for instance, is an A.I.-powered platform that gathers data on parameters such as the time employees spend checking email and interacting with colleagues, and alerting them when they need to take breaks. One feature, Reflection, privately tells employees how they've been feeling; another, Send Praise, makes it easy to express appreciation to coworkers; and Virtual Commute reminds employees when they should start wrapping up as the day ends. (Candelon, Ha, & McDonald, 2022)

The following medicalization strategies are emerging with bossware:

1. **Framing system-related employee activities in terms of self-development and self-actualization:** Rather than as surveillance and anti-cyberslacking, the bossware platforms are characterized in a motivational manner that may be attractive to many employees, as portrayed below in enable's documentation:

Balanced in the midst of imbalance.

Your life deserves to be lived. enable empowers you to do your best work, so you can live your best life...

enable is built to bring out the best in you. Designed by leadership experts, it learns what you like and helps you discover more insights you'll love. And that takes the work experience to a whole new level. (<https://enable.io/how-it-works/>, 2023)

Bossware medicalization efforts are often designed to extend beyond employees' working hours by inspiring particular mindfulness activities: "workers should deploy these technologies of the self throughout their daily lives, even beyond working hours: this means that the subjectification apparatus of corporate mindfulness is not limited to the workplace but extends to the entire life of the individual" (Carvalho & Grácio, 2022, p. 71). Inspiration for engaging in mindfulness during workplace interaction is provided with the software platform Humu's "nudge" system: "Drive measurable change with personalized, science-backed nudges" (<https://www.humu.com/how-nudges-work>). Nudges are "behavioral interventions that guide people's decisions toward more desirable options" (Kaiser, 2022), here options considered more desirable by management (Mele et al., 2021). "Meaningfulness" related to work is another aspect of these initiatives; Usman et al. (2021) address how "meaningful work" pertains to cyberslacking, with research showing that cyberslacking activities are often linked to a loss of a "sense of meaning of life" (Li et al., 2022).

2. **Specifying the timing and length of breaks in a therapeutic manner:** Bossware-related medicalization often includes using individualized employee break scheduling and recreational activities in ways that are designed to curb cyberslacking and are managerially-shaped, as with the Microsoft Viva break-taking approach previously described. Research is expanding on how machine learning-enabled break taking regimens can be integrated into systems (Bennett, Gabriel,

& Calderwood, 2020; Paulsen, 2011), presumably “optimizing for happiness and productivity” (Kaur et al., 2020). For example, Tseng et al. (2019) outline an AI-enabled application for “overcoming distractions during transitions from break to work” with a “Conversational Website-Blocking System.” Studies have shown that feedback on break durations can nudge employees to “reflect on what they were doing during interruptions... and avoid task-irrelevant activities” as in the TimeToFocus system (Borghouts, Brumby, & Cox, 2020, p. 1).

3. **Fostering employees’ work-related focus:** Increased levels of work focus are often associated with decreased cyberslacking and greater productivity (Tandon et al., 2021). The AI developer InnerEye asserts its systems “combine machine learning with the innate power of the human mind, ultimately helping workers eliminate indecisiveness and work faster than ever before” (Pati, 2022). The elicitation of intense focus from employees is manifested in the proprietary bossware RescueTime’s approaches for conducting “focus work”:

RescueTime’s most interesting set of features are designed to help you focus and take on deep work—high-value, mentally-demanding projects. RescueTime refers to this type of work as “Focus Work.” You can determine the activities that qualify as Focus Work in your settings and set goals for how much Focus Work you want to complete in a day. (Replogle, 2022)

Emphasizing the supposed benefits of sustained focus in particular workplace contexts (as opposed to multitasking or intermittent break taking) is in keeping with some recent societal trends; for example, the extensive use of drugs like Adderall and other cerebral enhancements by students and workers in US information-oriented industries has established the societal demands for cognitive focus and the avoidance of distractions (Lamkin, 2020).

4. **Providing management-approved recreational activities as alternatives to cyberslacking:** Management-sanctioned interactions are available with such applications as the “virtual water cooler” of the bossware platform Pragli, in which “workers virtual avatars are lined up in a grid and viewable at all times” (Harwell, 2020). The bossware platform Sneek describes approved interactions in the following way: “See your teammates all day and start instant video chats and group video chats with a single click. Sneek is a constant presence tool for digital nomads” (<https://sneek.io/>, 2023). Some organization-themed gamification and social media efforts may also serve the roles as permissible work-time recreation and alternatives to employee-controlled cyberslacking (Nivedhitha & Manzoor, 2020); some anti-cyberslacking bossware efforts have simply restricted employees’ usage of certain forms of social media (Stokel-Walker, 2020). Engaging in online activities not for relief and refreshment but because of specific managerial pressures has become common, with “playbor” concerns developing about the transformation of play into compulsive activity (Kücklich, 2005).
5. **Identifying and targeting “addictive” behaviors as well as other kinds of mental health issues:** Some AI-enabled systems identify problematic psychological conditions with machine learning analyses and target them for mitigation. Identification of emerging medical maladies such as “screen addiction” can serve to reinforce individuals’ compliance with certain bossware-provided medicalization strategies; in medical perspectives, an individual who is addicted often needs external sources of expert help, and the knowhow and structuring afforded by the AI systems can supposedly provide them. Andreassen, Torsheim, and Pallesen (2014) associated “neuroticism” with cyberslacking proclivities, and research by Lim and Teo (2022) linked employee “entitlement” to cyberslacking.

New forms of bossware-provided medicalization are likely to materialize in this genre as developers develop and refine various psychological constructs (such as “screen addiction”);

these constructs and approaches are rarely tested by their proprietary distributors, though they are often loosely associated with various wellness-related and medical experts. With these bossware platforms, vast amounts of employee information are collected and analyzed, generally with little transparency as to how the information will be handled; the proprietary nature of the systems often shields major data manipulation considerations from view, so how the constructs are manifested is opaque. Whatever constructs are advertised by the platform developers, the information collected from employees can also be used for the “policing” efforts described in the previous section, which can serve to delude employees about the systems’ purposes and give them little autonomy in their platform-related interactions.

Despite heavy managerial opposition, many employees have defended cyberslacking through the past decades as a stress reliever and support for wellbeing, often with the rationale that they are able to engage effectively in alternating or multitasking between their various work and off-work endeavors (Dewe & Cooper, 2017). For example, cyberslacking has been defended as a relief for boredom (Pindek, Krajcevska, & Spector, 2018), or as an “attempt to recover depleted psychological resources such as energy and attention” (Bennett, Gabriel, & Calderwood, 2020). Increasingly, managerial perspectives are also placing cyberslacking phenomena and related employee deviance into a more structured mental health framework, as exemplified by the systems and apps described in this section as well as the number of research studies devoted to these issues (Lim & Teo, 2022). For example, neuroticism, entitlement, and stress are being taken into account when developing some anti-cyberslacking interventions (Andreassen, Torsheim, & Pallesen, 2014; Koay, Soh, & Chew, 2017). Some managerial efforts also include the promotion of employee “mindfulness” as a “personal resource” in countering cyberslacking (Chen et al., 2022; Jarrahi, Blyth, & Goray, 2022; Mishra & Tajeja, 2022). These approaches are akin to the US medicalization initiatives of the 1970s and 80s, as organizations developed mental health interventions to deal with perceived employee deviance and to minimize presumed related productivity losses (Roman, 1980), efforts that have recently expanded in response to 2020 pandemic concerns (Carvalho & Grácio, 2022). Contino (2016) contends that “medicalization made its way into society as an extension of health systems into healthy life” (p. 45), often including aspects of wellness, mindfulness, and meditation. From an organizational perspective, Mishra and Tajeja (2022) state that “Managers are also looking for new strategies for holistic management of employees’ growth. It is well noted by the industry experts that employees’ well-being should be one of the several priorities” (p. 56). The medicalization efforts associated with current AI-enabled initiatives effectively increase the level of social control over the individual employee and focus the rationales for lost productivity on employee deviancy rather than on system-level factors. Some bossware platforms appear to empower employees and augment their capabilities as individuals; however, the platforms also provide surveillance data for employers’ potential use in disciplining employees.

AI AND COACHBOTS IN BOSSWARE MEDICALIZATION EFFORTS

In recent years, AI has played growing roles in attempts to reframe and mitigate cyberslacking activities, as well as other forms of managerially-identified employee deviance (Gkinko & Elbanna, 2022; Oravec, 2022b); Smith & Rustagi, 2022). For example, employee profiling and the machine learning-enabled analysis of interaction patterns are designed to assist in the prediction of employee disengagement with assigned tasks, though whether their constructs (such as “productivity scores”) and related data collection methodologies are successful in meeting these objectives is in question. The perceived need for guidance to navigate the often-confusing array of work and recreational choices has sometimes been addressed in the form of apparently-friendly AI-enabled chatbots, sometimes rooted in a generative AI structure. These entities (sometimes called “coachbots”) dispense advice concerning online behavioral habits, for example by linking a set of suggested breacktimes with advice about mindfulness and meditation. Since chatbot-style AI systems have a long history of elicitation of

intimate personal reflections (Weber-Guskar, 2021; Weizenbaum, 1976), coachbots could serve roles in invasive monitoring initiatives. A *Harvard Business Review* article characterizes coachbots in a benign light and projects that managers can convince employees that the bots are not primarily tools for managerial control: “If employees can relate to and control exchanges with artificial intelligence, they are more likely to see it as a safe channel for feedback that aims to help rather than to assess performance” (Babic et al., 2020, p. 3).

Coachbots can provide models of exemplary behavior as well as gentle counseling for employees as to how and when to take breaks or avoid procrastination, thus presenting themselves in emotional terms as benevolent companions rather than demanding and intrusive bosses. Klöpffer and Köhne (2022) describe the bots’ uses “to support workers with a low affinity towards technology” (p. 10). Such AI-enabled entities are designed to hasten the emergence of cyberslacking-resistant employees whose compliance with the platforms and intense work focus closely emulates that of the AI entities with whom they collaborate; for example, employees’ ethically-questionable cyberslacking impulses are implicitly compared to the organizationally-approved activities of these AI entities. These AI entities apparently have no need for breaks, no urges to engage in “guilty pleasure” media distractions (PANEK, 2014), and with unwavering diligence in following organizational rules.

PRACTICAL AND MANAGERIAL SIGNIFICANCE

This study brings to light some major practical consequences for organizations and managements of recent cyberslacking mitigation efforts, including a shift from system-level to individual-level focus and the potential for overall decreases in employee resistance to system participation. With the medicalization described in previous sections, many critical system-level workplace issues are often effectively transformed into individual-level employee concerns; for example, decreases in an individual’s productivity (as measured by a bossware-produced “productivity score”) are readily blamed on the individual’s level of acceptance of mindfulness recommendations and wellness-related nudgings. Analysis of the effectiveness of the work processes involved are neglected in favor of an individual-centered focus on the employee’s shortcomings in terms of work-related focus and personal resolve. Such notions as wellness, mindfulness, and medication, although worthy topics for consideration, can be presented in a proprietary, non-scientific manner that makes them less transparent.

A number of individuals in corporate settings will be using their own devices (with BYOD), installing the bossware platform into already-crowded systems. In these contexts, implementing and managing bossware platforms may be problematic in terms of security since the input collected from employees often include biometric indicators and other intimate information. Employees should be informed as to these security-related issues and educated as to how to take steps to protect their personal information. These non-company devices may have programs that in some ways destabilize or undermine the bossware platforms, and managers may want to monitor for these potential situations.

Some of the AI-enabled bossware approaches described in this article are altering the employee-perceived character of punitive and surveilling system elements to those of compassionate and sympathetic advisors and play companions, ones that are in keeping with other recreational AI applications in households and mobile technologies. Many employees may indeed be attracted by specific techniques for countering the perceived isolation of their home or remote locations and increasing their focuses on their work, and will not explore the implications of having their personal work profiles placed in a proprietary system. The use of these AI-enabled bossware platforms is often in synch with the rich assortment of household recreational opportunities, many of which are also individualized with AI methodologies (such as movie recommendation systems). However, with most workplace platforms, opportunistic and punitive policing-oriented strategies are still very much available to management (despite the benign appearance of the platforms), resulting in some situations that are problematic or even unfair. For example, in 2023, a Canadian employee was fined \$2,498.89 in

returned wages for alleged time theft, with the court accepting bossware analyses as evidence (Hearing, 2023). In a review of eighty-eight studies pertaining to the determinants of cyberslacking behavior, Shahzadi and Khurram (2022) identified employees' perceptions of the fairness of organizational systems as a major factor in whether employees engage in cyberslacking. Following on this insight, if employees indeed perceive the medical model system and the available AI coachbots as being fair in their advice and direction, cyberslacking could certainly be reduced to some extent.

Resistance to the managerially-imposed wellbeing and mental health strategies described in this article may seem counter-productive to some employees, who may consider these interventions as benign. By enabling certain kinds of personalized online activities that are construed as refreshing, recreational, or even healing from a mental health standpoint, managers may in effect undercut or destabilize some of the resistance or rebellion associated with more draconian anti-cyberslacking strategies. Cyberslacking is itself often considered as a form of resistance, with schemes for outsmarting various workplace platforms being shared on social media. Many employees have had extensive experience with AI in play-related scenarios, so some of the resistance is taking on a playful character (Zhu et al., 2021), incorporating measures to circumvent or manipulate the systems (Lewis, 2021). For example, one report of how an employee managed to subvert a system relates that "Remote worker sleeps during workday, sets alarms to jiggle mouse and appear active on [Microsoft] Teams" (Bjella, 2022, para. 1), and many other strategies itemized in articles with titles such as "How to Cheat Time Trackers" (Petit, 2022). The "mouse jigglers" has taken on considerable celebrity as a resistance strategy on social media (Pitt, 2022; Wilson, 2021).

Resistance to AI approaches by some employees could also take on the form of political initiatives that seek to identify and curtail managerial interventions that are too intrusive and harmful to employee wellbeing (Bernhardt, Kresge, & Suleiman, 2023; Calacci, 2022; Zhang et al., 2022). The targets of employees' workplace resistance efforts are often unclear; whether certain organizational practices are being challenged by employee actions is a complex question that requires a great amount of context (Thompson, 2016). Individual autonomy may be threatened if employees are not allowed some discretion in break times and recreational choices; taking a short break is often a kind of personal reward, and some discretion as to when these breaks are taken is part of a sense of personal autonomy (Şimşek & Şimşek, 2019).

CONCLUSION AND SOME REFLECTIONS

This study helps bridge the theoretical gap between "policing" and "predictive" approaches to cyberslacking mitigation. It also identifies and examines platform mechanisms that support the medicalization of bossware. Its theoretical contributions are of special importance because of the speed in which AI is being introduced into everyday workplace processes. With AI-enabled bossware, cyberslacking mitigation can become a complex amalgamation of efforts; for example, the timing and duration of work breaks can be conducted with machine learning output, and options for how those tailored breaks are spent can be individualized. As analyzed in this study, AI is contributing to medicalization approaches to cyberslacking mitigation in which the provisions of wellness, mindfulness, and meditation support via nudges and chatbots present a softer and even sympathetic appearance for managers in their efforts to institute control over employees.

Implementation of these softer bossware applications still requires extensive surveillance, which is reminiscent of previous, less sophisticated eras of employee monitoring. Traditional and more punitive managerial constructs of cyberslacking have had a considerable presence in organizations for decades, so the kinds of sympathetic-appearing managerial changes described in this article may take some time to be realized fully. The AI applications discussed in this article have the potential to shape cognitive processes in terms of focus and attention, as well as employees' perceived autonomy and senses of wellbeing (Brooks et al., 2021). However, since the proprietary bossware constructs and processes used are largely-untested, the overall outcomes are indeed uncertain. The bossware platforms

described in this article may effectively displace the characterizations of “overseer” bosses, facilitating the development of cyberslacking-resistant employees who are attuned to workplace demands and in synch with workplace rhythms, as well as suitable participants in their AI-enabled systems.

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