

TECHNOLOGY USE FOR NONWORK PURPOSES AT WORK: A BEHAVIOR-FOCUSED INTEGRATIVE REVIEW

MATTHEW B. PERRIGINO
Baruch College

ROSHNI RAVEENDHRAN
University of Virginia

JI WOON RYU
Portland State University

Technology use for nonwork-related purposes at work—defined as *technology-facilitated behaviors primarily unrelated to job tasks that occur during working hours*—is a prevalent phenomenon. However, the study of these behaviors is fragmented across three communities: counterproductive work behaviors (i.e., “cyberslacking”); recovery (i.e., “microbreaks”); and a descriptive category that equates behaviors with constructs (e.g., “social media use”). Our review of 135 studies reveals the same behaviors are studied across all three communities but with critical shortcomings: distinctive areas of focus within each community, including theoretical divides; overlapping conceptualizations with ambiguous measurements; insufficient consideration of nuances in use behaviors; and an underexplained parity of positive and negative effects on key work and nonwork outcomes. Given these shortcomings, we identify five review-driven themes centered around the emergence of a 2×2 framework that pinpoints concrete behaviors as ranging from passive to active (i.e., how much effort is associated with use) and intrapersonal to relational (i.e., how much interpersonal interaction is involved). Our framework provides guidance for future research and practice on how best to identify precise patterns and situations regarding when specific use behaviors occur and whether they result in positive or negative outcomes.

Technology use for nonwork-related purposes at work, such as internet browsing (Blau, Yang, & Ward-Cook, 2006), social media use (Moqbel, Nevo, & Kock, 2013), communicating with family and friends via messenger applications (Yeh, Ma, Pan, Chuang, & Jhuang, 2020), and online gambling (Hadlington & Parsons, 2017), is a “pervasive behavior observed in the daily work environment” (Lee, Lee, & Kim, 2007: 75). Estimates suggest employees spend up to two hours per workday engaging in such behaviors, costing organizations an annual \$85 billion in lost productivity (Andel, Kessler, Pindek, Kleinman, & Spector, 2019). At the same time, these statistics on the costs of lost productivity may be overstated or misleading if they fail to capture subsequent productivity gains or cost savings from

reduced burnout (Syrek, Kühnel, Vahle-Hinz, & De Bloom, 2018). With the increased blurring of work and nonwork boundaries and these potential costs and benefits, management scholars have devoted significant attention to the study of technology use for nonwork-related purposes at work (Ciolfi & Lockley, 2018; Farivar & Richardson, 2021; Russo, Ollier-Malaterre, Kossek, & Ohana, 2018).

Reflecting this widespread interest, technology use for nonwork purposes at work (hereafter “use”) is studied across three different communities. One community addresses “cyberslacking,” with synonyms including “cyberloafing” (Aghaz & Sheikh, 2016), “cyber deviance” (Rahimnia & Mazidi, 2015), “internet abuse” (Page, 2015), and “online procrastination” (Metin, Taris, & Peeters, 2016), where use is framed negatively and considered as a deviant, counterproductive work behavior, or CWB (Lim, 2002). The negative framing stems from the attribution that users are engaging in “a form of withholding effort” (Zoghbi-Manrique-de-Lara, 2009: 188)

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that constitutes “a work-avoidance strategy that serves primarily as a means of expressing workplace grievances, and to a lesser extent, as a source of personal gratification” (Garrett & Danziger, 2008b: 287). Encompassing perspectives from the management, cyberpsychology, and management information systems (MIS) literatures, investigations in the CWB community typically focus on antecedents of use behaviors (e.g., Mercado, Giordano, & Dilchert, 2017). Some examples of behaviors studied within this community include online shopping, reading online news, emailing with friends and family, online gambling, accessing pirated materials, viewing pornography, and sharing content on social media (Blanchard & Henle, 2008; Glassman, Prosch, & Shao, 2015; Usman, Javed, Shoukat, & Bashir, 2021).

The second community, which is rooted almost exclusively in the industrial-organizational (IO) and organizational behavior (OB) literatures, refers to use as a proactive energy management strategy that occurs as a “microbreak” and allows for cognitive replenishment (or *recovery*) during the workday (Troughakos & Hideg, 2009). When technology-facilitated, these behaviors typically occur in the form of either relaxation or socialization breaks (Kim, Park, & Niu, 2017). Relaxation breaks include watching online video clips and surfing the web (Bennett, Gabriel, & Calderwood, 2020; Bosch & Sonnentag, 2019; Janicke, Rieger, Reinecke, & Connor, 2018), while socialization breaks include checking personal email and communicating with family and friends (De Bloom, Kinnunen, & Korpela, 2015; Nie, Zhang, Peng, & Chen, 2023; Parker, Dawson, Van den Broeck, Sonnentag, & Neal, 2021; Wu, Hunter, & Sublett, 2021). Also referred to as “respite activities” (Chong, Kim, Lee, Johnson, & Lin, 2020) and “proactive vitality management” (Op den Kamp, Tims, Bakker, & Demerouti, 2018), these behaviors are framed more positively because temporary detachment from work-related activity allows for within-workday replenishment, which subsequently increases productivity and engagement (Syrek et al., 2018). These studies have primarily positioned use as an antecedent, focusing on its downstream effects and consequences.

The third community takes a *descriptive* approach, studying specific behaviors as constructs like cross-domain communication (Wan, Shaffer, Lau, & Cheung, 2019), setting-inconsistent mobile communication (Lutz, Schneider, & Vorderer, 2020), social media use (Charoensukmongkol, 2014; Lu, Zhong, Sun, & Qin, 2023), personal web usage (Anandarajan, Simmers, & D’Ovidio, 2011; Mahatanakoon, Anandarajan, & Igbaria, 2004), online news consumption

(Andel, Arvan, & Shen, 2021), personal blogging (Bizzi, 2020), ICT use for personal purposes at work (Chesley, 2014), personal smartphone use at work (Derks, Bakker, & Gorgievski, 2021; Lekkas, Price, & Jacobson, 2022; Patterer, Yanagida, Kühnel, & Korunka, 2021), and nonwork-related interruptions at work (Horvath, Gueulette, & Gray, 2021; Russo et al., 2018). The descriptive community encompasses management, cyberpsychology, and MIS literatures (like the CWB community) and primarily focuses on use-related outcomes (like the recovery community). However, a critical departure from both the CWB and recovery communities is that the descriptive community avoids a priori framing about whether the construct or behavior is “good” or “bad” (e.g., personal web usage is studied as “personal web usage” rather than “cyberslacking” or a “microbreak”). Instead, these studies have often treated the behavior as somewhat neutral (recognizing that it can involve both pros and cons) and made post hoc evaluations based on whether hypotheses and the underlying theories on which the hypotheses were based are confirmed or rejected.

Despite noted divergences, the three communities are united through their consideration of the *same underlying archetypal technology use behaviors*. Critical to this observation is that there are many distinct-but-shared use behaviors embedded within and across the three communities. Yet a conundrum remains over how best to construe such behaviors. Aggregating all behaviors under a broad “use” umbrella is too imprecise (obscuring critical distinctions), whereas parsing apart the distinctiveness of each behavior is too precise (creating a multiplicity of overlapping dimensions potentially lacking in discriminant validity). We tackle this complex issue by building on key common characteristics of underlying use behaviors studied across the three communities to derive an integrative, review-driven framework. While conceptualizations may change across communities, the enduring underlying behaviors provide a common foundation to move this area of study forward.

With this integrative review, we shift away from a potentially problematic a priori framing of behaviors—which has an oversized influence on shaping and limiting investigations within different communities—by initially considering and defining “use” as an umbrella phenomenon. In doing so, we highlight the shared attributes across the three communities (unifying them within a single “use” community) and distinguish which behaviors are included under this umbrella versus those which are

beyond its scope. We consider this a prerequisite step that establishes this understanding of use as a broad, abstract phenomenon prior to considering more precise conceptualizations of how use behaviors can be studied and understood going forward, including how our concrete reframing of behaviors within a single community generates new insights based on the existing evidence.

The need to integrate these three communities using a behavior-focused approach is further reinforced through our emphasis on technology use. Recent advances in technology have modified work and nonwork boundaries in ways that transcend space and time, with use enabling the simultaneous enactment of work and nonwork roles (Ollier-Malaterre, Rothbard, & Berg, 2013). While traditional CWBs (e.g., abusing sick day privileges; Bolin & Heatherly, 2001) prevent work role expectation fulfillment, and traditional recovery activities (e.g., taking a quick nap; Kim et al., 2017) are respites from the work role, simultaneous role enactment made possible by technology suggests use behaviors for nonwork purposes can occur while still fulfilling (and not at the expense of or while taking a break from) work role expectations during working hours. Moreover, technology introduces a host of considerations not necessarily captured in traditional CWB or recovery activities that underscore how use manifests in subtle and potentially pernicious ways (e.g., technology addiction).

Based on these considerations, we review 135 studies across the three communities and derive five review-driven themes that capture *technology use for nonwork-related purposes* as a phenomenon involving use behaviors that occur across various devices and platforms and are distinguishable along two dimensions: active-passive (amount of effort involved) and relational-intrapersonal (amount of interpersonal interaction involved). We begin by scoping out the three core definitional features of use as (a) technology-facilitated, (b) primarily focusing on non-task-related activity, and (c) occurring during work hours. We then explain how use is neither inherently good nor inherently bad but shaped by both positive and negative framing where the same behavior may be appraised as anywhere from positive to neutral to negative across different individuals (including supervisors, human resources [HR] policy-makers, academics studying use, family members, and the users themselves). By bridging disciplinary and theoretical divides to conceptualize use as a holistic phenomenon that involves the consideration of individual and contextual antecedents,

different types of behaviors, and outcomes, we draw attention to how the use experience itself—including use duration, frequency of use, and whether use is pleasant or unpleasant—influences simultaneous and time-lagged work and nonwork outcomes.

Our framework contributes specifically to the three communities and more broadly to the IO/OB, management, cyberpsychology, and MIS disciplines. By integrating findings across communities, we uncover a 2×2 typology suggesting use behaviors are distinguishable based on the amount of effort (i.e., active-passive) and interpersonal interaction (i.e., relational-intrapersonal) involved. In doing so, we identify cross-cutting patterns across the three communities involving use-related outcomes, including which types of behaviors from the 2×2 typology result in more positive or more negative outcomes. By reexamining outcomes within this emergent typology, we not only provide greater clarity around previously mixed findings characterized by a parity of positive, mixed, null, and negative outcomes but also account for how these patterns are obscured by overlapping and vague conceptualizations. In addition to providing guidance for the systematic study of these behaviors, we shed light on ambiguities in the measurement of use and how existing constructs embed distinct behaviors within single-factor structures. We also identify ways for future research to add additional dimensions to our emergent 2×2 typology.

Our crystallization of use as a holistic phenomenon merges distinctive areas of focus within each community and bridges theoretical divides. Thus, another significant contribution of our work pertains to uncovering hidden complementarities across the three communities that account for how contextual and individual antecedents explain why *most* individuals appear likely to engage in some form of use albeit for a wide variety of juxtaposed reasons (e.g., *either* deviant *or* well-intentioned motives; *either* boredom *or* burnout). Rather than suggesting the superiority of one perspective, this integrative view further enhances the validity of all three perspectives as encompassing parts of a broader phenomenon. We further highlight complementarities by underscoring how use is best positioned as a linking mechanism that requires joint consideration of antecedents and outcomes while simultaneously pushing the three communities toward coalescence and hedging against over-generalized views that use is simply “good” or “bad” within the recovery and CWB communities, respectively. Taken together, we

reveal how use is a phenomenon that is significantly larger in scope (both theoretically and practically) than previously portrayed within any single community.

Finally, informed by the remaining gaps and unanswered questions in our synthesis of the 135 studies, we explore interesting areas for future research to better integrate temporal considerations (given limited attention distinguishing simultaneous versus time-lagged outcomes), work–life theory (given the tangential role of technology in many seminal perspectives; cf., Ollier-Malaterre et al., 2013), and HR policies (given the dominant focus on restricted use policies versus policies that encourage or allow use).

DEFINING “USE”: WHAT IT IS, AND WHAT IT IS NOT

We broadly define technology use for nonwork-related purposes at work as a behavioral phenomenon consisting of three interrelated components. Use behaviors (a) are technology-facilitated, (b) primarily focus on non-task-related activity, and (c) occur during work time. These are three core, shared characteristics that are consistent across the three communities studying use. “Use” is intended as an umbrella term to capture all forms of behaviors that satisfy these three criteria. We neither expect nor encourage future research to study use *per se*, but—as we explain throughout the five themes discussed in our review below—advocate for the study of more discrete use behaviors that can be categorized according to more concrete distinctions. Nonetheless, we begin by addressing the overall phenomenon to establish a broad boundary that separates the types of behaviors that our definition encompasses from those that are beyond our definitional scope.

First, use is technology-facilitated through various devices. For example, web browsing—such as checking news or sports scores—can occur on a tablet, smartphone, laptop, or desktop at one’s workstation. Use also occurs and is studied through different applications and platforms (e.g., “Facebook use” as a specific example or “social media use” as a broader example), which can occur across multiple devices. Therefore, activities that satisfy the other two criteria but are not technology-facilitated are beyond the scope of our definition. Although perhaps obvious given the framing of our review, this is a crucial definitional aspect since only portions of the broader communities are included. For example, daydreaming, reading the newspaper, and engaging in a brief “digital detox” by taking a walk outside are beyond

the scope of our review even though these behaviors can be considered (non-technology-facilitated) examples of CWBs or recovery activities.

Second, use primarily focuses on non-task-related activity. We add this qualification since tools like social media, email, and web browsers afford both nonwork- *and* work-related functionalities (Leonardi & Vaast, 2017; McFarland & Ployhart, 2015). We are intentional with our use of “primarily” to account for the possibility of multitasking. As a preview of our review, however, the 135 studies rarely consider multitasking and inherently assume that *all* activity and attention is diverted from task-related activity when use occurs. Therefore, task-related use (e.g., texting with a coworker about a work project or watching a YouTube video tutorial on how to use the company’s enterprise application software) is beyond the scope of our consideration. Because the reviewed studies do not specifically examine multitasking and “holistic” technology use (where technology is used simultaneously for both work- and nonwork-related purposes; Walden, 2016), we leave this open as an area for further investigation and return to this point in the General Discussion section.

Third, use occurs during work time. Although the 135 reviewed studies mainly addressed this in the form of the “standard” 9:00 a.m. to 5:00 p.m. workday, reflective of traditional scheduling, this can also include nighttime for third shifts (Bolino, Kelemen, & Matthews, 2021) and other unique time ranges for salaried employees. As a boundary condition, we exclude consideration of work-related use during nonworking hours (e.g., Kühner, Rudolph, Derks, Posch, & Zacher, 2023; Schlachter, McDowall, Copley, & Inceoglu, 2018), such as constant connectivity expectations (Padavic, Ely, & Reid, 2020) and workplace telepressure (Barber & Santuzzi, 2015). Similarly, nonwork use that occurs outside of work time (e.g., evening “cyber leisure” such as watching Netflix on one’s tablet or personal computer (PC) before bedtime rather than responding to work emails; Liu, Ji, & Dust, 2021) is also beyond the scope of our review.

Although we define a soft temporal boundary around *when* use occurs, we leave open to interpretation the physical boundaries around *where* use occurs. On the one hand, most of the 135 reviewed studies below focused on the physical workplace location; thus, we primarily focus on use occurring within the office context where the user is physically proximal to other coworkers who may or may not observe use behaviors. On the other hand, the three criteria above are also satisfied for remote workers, which represents a significantly higher number of

employees in the post-pandemic era (Perrigino & Raveendhran, 2020). Since few studies considered the implications of technology monitoring and tracking tools (e.g., Raveendhran & Fast, 2021), which can “observe” use regardless of whether it occurs on premises or remotely, we set this aside as a focus area and return to this point in the General Discussion.

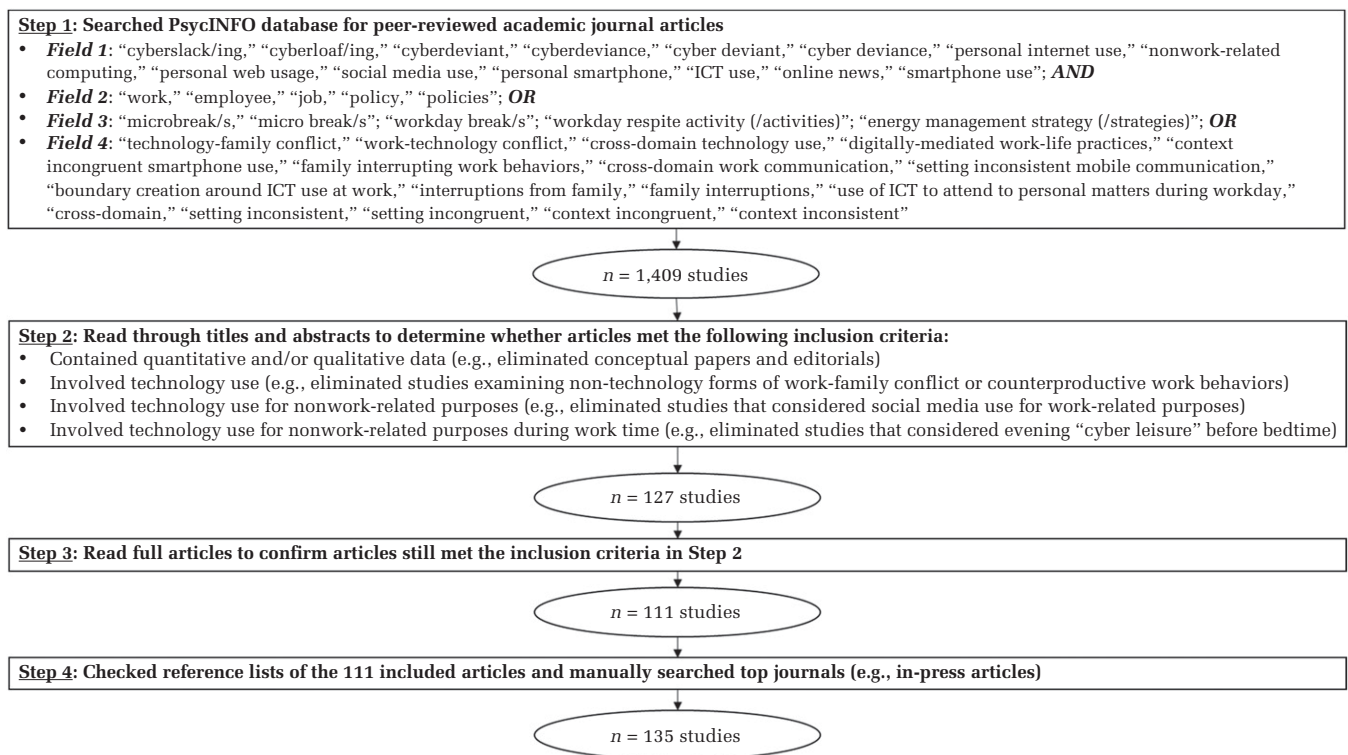
Finally, as aforementioned, we immediately resolve a key source of tension between the three communities by excluding any a priori attributions, framing, homonyms, or broader conceptualizations of use within our definition. Stated simply, we focus strictly on the use behavior itself. We neither confound use with users’ intentions or other antecedents (e.g., predefined as a form of deviance or revitalization) nor conflate use with outcomes (e.g., that use has “unexpected” or “counterintuitive” positive or negative effects when viewed as a CWB or recovery activity, respectively). Instead, we argue that all three communities study the same behaviors; by grouping these behaviors and unifying the three communities within the broad “use” umbrella, we can thoroughly and more objectively assess the

various antecedents and outcomes associated with use without any predetermined notions or assumptions.

LITERATURE REVIEW

Consistent with approaches that adapt preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines for conducting integrative reviews (Sarkis-Onofre, Catalá-López, Aromataris, & Lockwood, 2021; e.g., Chen, Mehra, Tasselli, & Borgatti, 2022; see also Cronin & George, 2023), we used a four-step process displayed in Figure 1 to search for peer-reviewed articles published in academic journals. In Step 1, we conducted a search for articles using the PsycINFO database with four separate search fields. The first two fields included (a) terminology associated with technology use for nonwork-related purposes (including “cyberslacking” and “cyberloafing” from the CWB community); and (b) work-related terms including “work,” “job,” and “employee.” These two fields were combined with an “AND” function to appropriately capture studies

FIGURE 1
Overview of Search Methodology



Note: The structure of this figure is based on other recent reviews that seek to transparently convey their search process in a visual format (e.g., Chen et al., 2022).

TABLE 1
Search Terminology for Conducting Review

Search Field	Search Terminology
Field 1: Technology use for nonwork-related purposes terminology <i>AND</i>	“cyberslack/ing” OR “cyberloaf/ing” OR “cyberdeviant” OR “cyberdeviance” OR “cyber deviant” OR “cyber deviance” OR “personal internet use” OR “non-work-related computing” OR “personal web usage” OR “social media use” OR “personal smartphone” OR “ICT use” OR “online news” OR “smartphone use”
Field 2: Work-setting terminology <i>OR</i>	“work” OR “employee” OR “job” OR “policy” OR “policies
Field 3: Microbreaks terminology <i>OR</i>	“microbreak/s” OR “micro break/s” OR “workday break/s” OR “workday respite activity (/activities)” OR “energy management strategy (/strategies)”
Field 4: Specific terminology addressing the intersection between technology and the work–nonwork interface	“technology-family conflict” OR “work-technology conflict” OR “cross-domain technology use” OR “digitally-mediated work-life practices” OR “context incongruent smartphone use” OR “family interrupting work behaviors” OR “cross-domain work communication” OR “setting inconsistent mobile communication” OR “Boundary creation around CIT use at work” OR “interruptions from family” OR “family interruptions” OR “use of ICT to attend to personal matters during workday” OR “cross-domain” OR “setting inconsistent” OR “setting incongruent” OR “context incongruent” OR “context inconsistent”

Note: We searched both terms where denoted by the “/”. For example, “cyberslack” and “cyberslacking” were entered as two separate terms, as were “energy management strategy” and “energy management strategies.”

that examined use (first field) in a work context (second field). Additionally, we entered specific terminology from the recovery community—including “microbreaks” and “workday breaks”—in the third field, while in the fourth field we entered terminology from the descriptive community, including “setting-inconsistent mobile communication,” “context incongruent smartphone use,” and “family-interrupting work behaviors.” Importantly, we did not place any limits based on discipline or journal since our integrative review is interdisciplinary in scope. We also did not place any limits attempting to filter based on journal quality metrics (e.g., impact factor or CiteScore) since this can unintentionally introduce bias regarding the type of evidence included or excluded for review (Daniels, 2019). Step 1 returned 1,409 academic articles for initial inclusion. Table 1 provides the full list of our search terms and parameters.

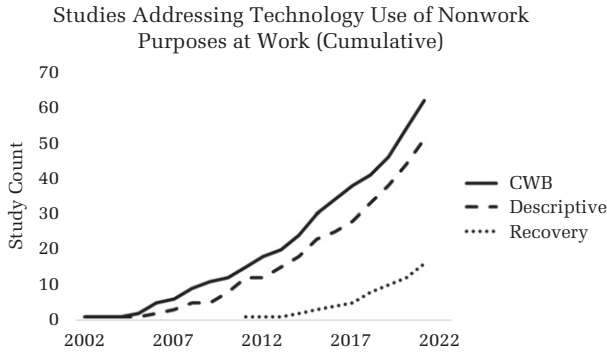
In Step 2, we read through titles and abstracts to eliminate articles based on the following inclusion and exclusion criteria: articles had to (a) contain quantitative or qualitative data, (b) involve some form of behavioral use facilitated by technologies, (c) involve use for nonwork-related purposes, and (d) focus on use that occurred during work time. This left us with 127 articles for inclusion. In Step 3, we read the full text of the 127 studies to ensure that they met the inclusion criteria from Step 2, leading to the elimination of another 16 studies. In Step 4, we checked the reference lists of the remaining 111 articles and searched top journals for in-press

articles, resulting in an additional 24 articles. In total, we retained 135 articles for review.

Coding and Organization

To generate descriptive statistics and inductively organize our review, we coded each of the 135 articles according to the following categories: community, journal, discipline, year of publication, theory, key (use) variable, antecedents, outcomes, moderators, sample location (geography), methodology, measurement, and specific use behaviors. In total, our review included 65 studies from the CWB community, 17 studies from the recovery community, and 53 studies from the descriptive community. As shown in Figure 2, all three communities continue to demonstrate significant growth rates. Between 2017 (selected to represent the latest five-year window) and the time during which our literature search was conducted (mid-2022), the CWB community grew 110% (from 34 to 65 studies), the descriptive community grew 112% (from 28 to 53 studies), and the recovery community—owing to both the smaller sample size and its nascent stages compared to the other two communities—grew exponentially at a rate of 325% (from 3 to 17 studies). Copies of our Excel coding file and Word document table summaries of studies across each of the three communities are available via the Open Science Framework (OSF) at https://osf.io/urq5h/?view_only=47d58120a2b44ac3976dd896ed0a4f71. For ease of accessibility, we include a “Table of Contents” document that summarizes the three uploads within the folder.

FIGURE 2
Growth Trajectories across Communities
Studying Technology Use for Nonwork Purposes at Work

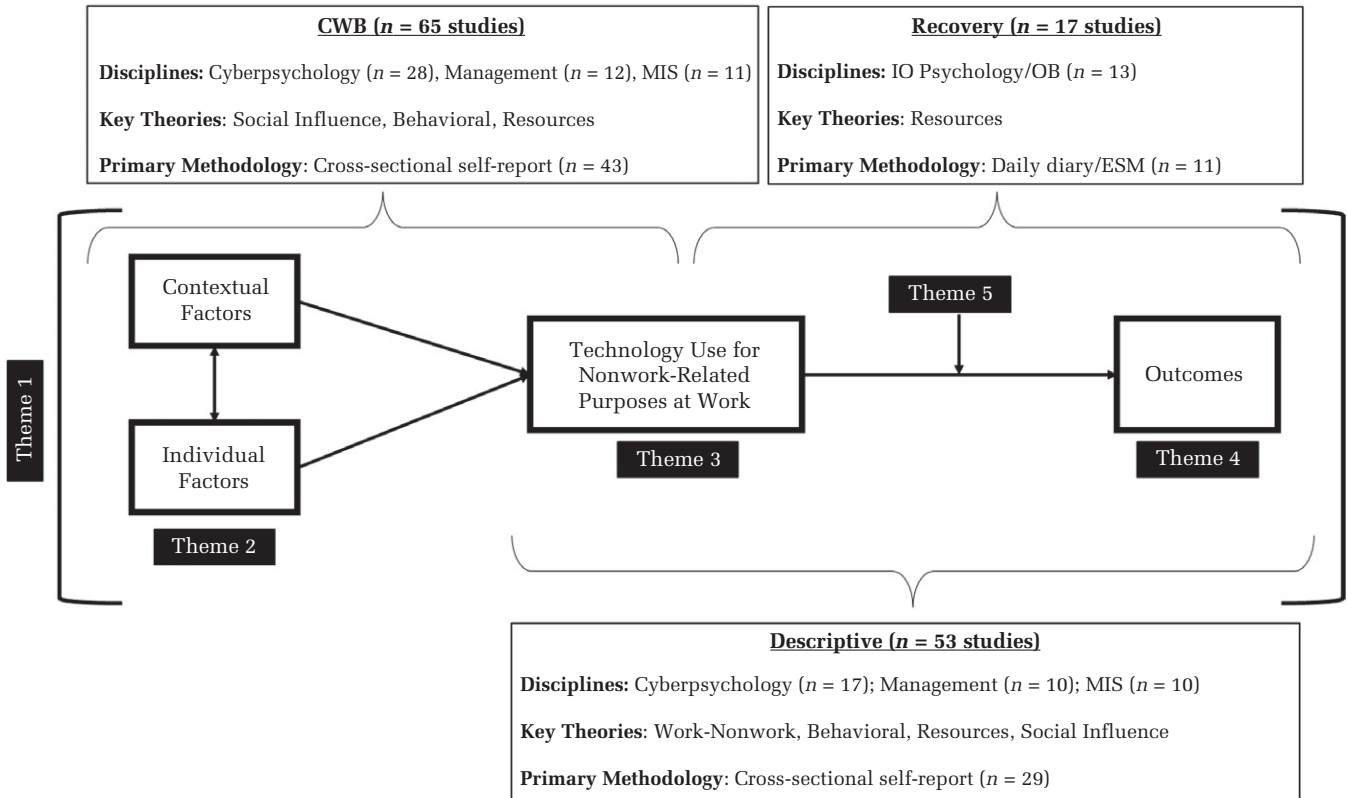


Notes: We coded the 135 reviewed studies based on whether they fit within the counterproductive work behavior (CWB), descriptive, or recovery community. We include data only through 2021 in this chart since we do not have full-year data for 2022 (as our search for studies was completed in the middle of the year).

We used our coding to identify patterns across studies and communities, resulting in five emergent themes. We organize our review around these five themes, briefly introducing each one here (summarized in Figure 3) before offering a more in-depth analysis of each in the subsequent sections. *Theme 1: A fragmented model*, is based on our coding of theory and the role of the key use variable (i.e., positioning of use as an antecedent, outcome, and so on) across all 135 studies, revealing that each community is rooted in separate theoretical orientations and tends to adopt a relatively myopic focus regarding the use phenomenon. A complete picture emerges only when integrating the three communities, where use must be considered in terms of its antecedents, use behaviors, downstream outcomes, and the context(s) in which use occurs. Theme 1 presents the full scope of the use phenomenon, while Themes 2 through 5 address each component in greater detail.

Theme 2: Almost everyone does it, is based on our coding of the 75 studies which considered antecedents

FIGURE 3
Scope and Overview of Technology Use for the Nonwork-Related Purposes at Work Phenomenon



Notes: (1) MIS = management information systems; IO = industrial-organizational; OB = organizational behavior; (2) While our review uncovers other theories (Table 2) and disciplines (Table 3) represented across the three communities, the most common ones are listed here for parsimony.

of use. We highlight not only how contextual (including both structural factors like organizational policies and interactional factors like social influence) and individual (e.g., motives) aspects influence use but also how—across the collection of studies—it appears that most individuals are likely to engage in some form of use. *Theme 3: Varied uses with an often-blurred focus*, is based on our coding of specific use behaviors. Based on the full set of 135 studies, we not only coded for the use construct but also (reflecting a lower level of granularity and bridging abstract and concrete views of “use”) coded for specific and distinct behaviors embedded within the construct via its conceptualization and operationalization. In this section, we further discuss this aspect of our coding in more detail to explain how we derive our finding that behavioral use occurs along two dimensions: *passive versus active* and *intrapersonal versus relational*. We also highlight how measures often blur together these distinctive dimensions and multiple behaviors, obscuring much of the nuance required to advance the field’s understanding moving forward. Nonetheless, in *Theme 4: Subtle patterns among heterogeneous findings*, we apply our findings from Theme 3 across the 67 studies that examined use-related outcomes to connect specific behaviors along the two dimensions to outcomes including job performance, work engagement, work attitudes and motivation, well-being, and work-nonwork outcomes. We derived these outcome categories as an aggregation of the most studied outcomes based on the relationships explored in the 67 studies. Finally, we consider moderators of the use-outcome relationship in *Theme 5: Missing specifics*

in the second stage. We note this theme is somewhat speculative—albeit still important—as it is based on our coding of only 30 studies that examined use-outcome moderators.

Theme 1: A Fragmented Model (Theory and Discipline; $n = 135$ Studies)

As shown in Figure 3, “use” is best considered holistically in terms of its antecedents, the actual use behaviors, and the downstream outcomes; yet this is only evident when integrating theories and disciplinary foci across the three communities. As shown in Table 2 (summary of theories across communities) and Table 3 (summary of disciplinary perspectives across communities), each piece of the model remains relatively standalone, considered within distinct communities, and rooted in separate theoretical orientations.

The CWB community primarily considers antecedents of use—including individual characteristics and influences from the work environment—invoking behavior-based theories like the theory of planned behavior (Ajzen, 1991; e.g., Askew & Buckner, 2017; Huma, Hussain, Thurasamy, & Malik, 2017; Rahimnia & Mazidi, 2015) and social influence theories like social exchange theory (Blau, 1964; e.g., Lim, Koay, & Chong, 2021; Zhang et al., 2020) and equity theory (Adams, 1965; e.g., Cheng, Zhou, Guo, & Yang, 2020; Koch & Nafziger, 2016; Zoghbi-Manrique-de-Lara, 2007). Given that use in the CWB community is primarily viewed as a significant cost to organizations’ productivity and as a generally

TABLE 2
Summary of Theories Across Communities

Theory	CWB	Descriptive	Recovery	Total
Behavioral Theories	18	15	2	35
Theory of planned behavior (Ajzen, 1991)	5	4	0	9
Self-determination theory (Deci & Ryan, 1985)	2	2	2	6
General deterrence theory (Hollinger & Clark, 1983)	3	1	0	4
Social Influence	19	11	0	30
Equity/justice theory (Adams, 1965)	8	1	0	9
Social exchange theory (Blau, 1964)	5	3	0	8
Resource-Based Theories	15	13	22	50
Conservation of resources (Hobfoll, 1989)	6	5	8	19
Effort-recovery (Meijman & Mulder, 1998)	3	0	9	12
Job demands-resources (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001)	1	4	1	6
Work-Nonwork Theories	2	19	0	21
Boundary management theory (Ashforth et al., 2000)	1	6	0	7
Border theory (Clark, 2000)	0	6	0	6

Notes: For parsimony, only theories cited at least three times across the 135 studies are included in the within-category summaries above. Totals will not tie out to 135 because some studies were atheoretical while others invoked more than one theory.

TABLE 3
Summary of Disciplinary Perspectives Across
Communities

Discipline	CWB	Descriptive	Recovery	Total
Cyberpsychology	28	17	0	45
IO/OB	7	8	13	28
Management	12	10	1	23
MIS	11	10	0	21
Psychology (General)	4	2	2	8
Sociology	0	4	0	4
Public Health	2	1	0	3
Other	1	0	0	1
Communication	0	0	1	1
Public Administration	0	1	0	1
Total	65	53	17	135

Note: IO/OB refers to industrial-organizational psychology/organizational behavior; Discipline is based on our coding of each journal in which the study was published. The most common outlets were *Computers in Human Behavior* ($n = 24$), *Behavior & Information Technology* ($n = 9$), *Internet Research* ($n = 6$), and *Journal of Applied Psychology* ($n = 6$).

unwanted employee behavior (Andel et al., 2019; Andreassen, Torsheim, & Pallesen, 2014; Güğercin, 2020; Kim, del Carmen Triana, Chung, & Oh, 2016; Restubog, Garcia, Toledano, Amarnani, Tolentino, & Tang, 2011), this focus is understandable since the most practical application of this area of study is to understand *why* unwanted behaviors occur and how best to eliminate them. The perspective that use is “bad” extends to the handful of studies considering outcomes associated with use as a CWB, including Hadlington and Parsons’s (2017) investigation of how use is a threat to organizations’ information security. Perhaps most telling is the “counterintuitive” and “unexpected” framing of Page’s (2015) finding that use may enhance productivity and She and Li’s (2023) finding of a curvilinear relationship that some use may benefit task performance (in comparison to the recovery community, which would anticipate such patterns). Among the 65 CWB studies, only Venkatesh, Davis, Cheung, and Lee (2021) positioned use as a mediator linking antecedents and outcomes.

The recovery community primarily considers outcomes, including psychological detachment and work engagement, with studies almost exclusively rooted in resource-based theories like Meijman and Mulder’s (1998) effort-recovery theory (e.g., De Bloom et al., 2015; Kim, Park, & Headrick, 2018) and Hobfoll’s (1989) conservation of resources theory (e.g., Bosch & Sonnentag, 2019; Conlin, Hu, & Barber, 2021; Zacher, Brailsford, & Parker, 2014).

This focus is not necessarily surprising since within-workday recovery activities are expected to lead to benefits in terms of productivity and engagement, with studies considering whether use is an on-the-job resource or demand (i.e., creating positive and negative downstream effects, respectively). Yet few studies have examined antecedents to confirm that use is indeed a proactive energy management strategy as conceptualized (Op den Kamp et al., 2018; Parker et al., 2021). Only Bosch and Sonnentag (2019) considered how influences like task aversiveness, need for recovery, and desire for self-rewards lead to use, while Kim et al. (2017) pointed to work-related demands as a prompt for use.

The descriptive community also tends to focus more on outcomes. In addition to the distinguishing characteristic that these studies have made no a priori positive or negative judgments about use, there is also more theoretical heterogeneity within this cluster of studies. While some studies invoked behavioral theories (e.g., Fusi & Feeney, 2018; Pee, Woon, & Kankanhalli, 2008; Strader, Fichtner, Clayton, & Simpson, 2011) and resource-based theories (e.g., Charoensukmongkol, 2015; Wan et al., 2019; Zivnuska, Carlson, Carlson, Harris, & Harris, 2019)—similar to the CWB and recovery communities, respectively—descriptive studies most commonly invoke work–life theories, specifically boundary management theory (Ashforth, Kreiner, & Fugate, 2000; e.g., Berkowsky, 2013; Rose, 2015;) and border theory (Clark, 2000; e.g., Dora, van Hooff, Geurts, Hooftman, & Kompier, 2019; Horvath et al., 2021; König & de la Guardia, 2014; Kühnel, Vahle-Hinz, de Bloom, & Syrek, 2020). Studies within this community tend to pay greater attention to the use behavior itself (discussed below in Theme 3).

Key insights. This theme and our general framework in Figure 3 are reinforced in two ways when collectively viewing the three communities together. First, nearly half of the studies positioned use as an outcome ($n = 67$), and the other half positioned use as an antecedent ($n = 75$), with the notable omission that few studies positioned use as a mediating mechanism to link antecedents and outcomes.¹ The CWB community almost exclusively considers antecedents of use while the recovery and descriptive communities focus heavily on outcomes. Second, our journal and discipline coding not only reflects the

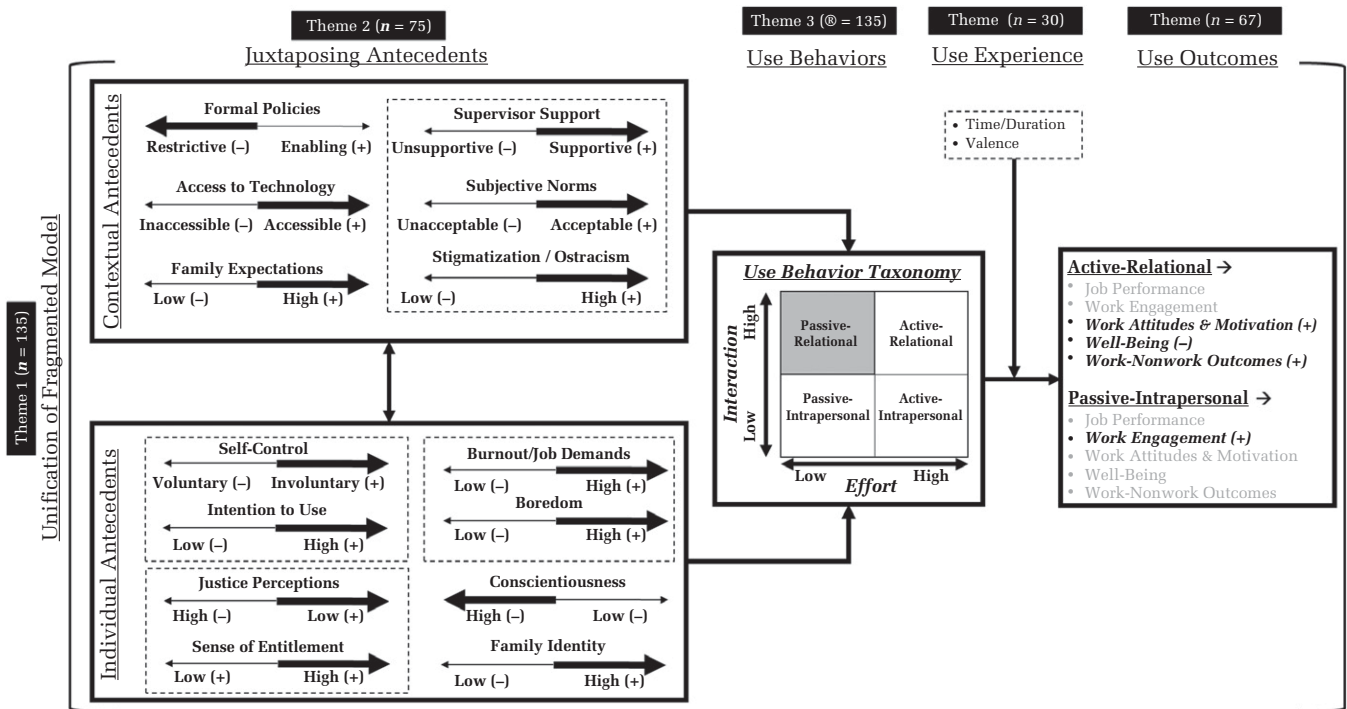
¹ We include studies that examine use as a mediator in our respective analyses of both antecedents and outcomes, hence these numbers totaling slightly (since few studies examined use as a mediator) more than $n = 135$.

divergent focus within each community but also—and importantly—the connection across the three communities. As shown in Table 3, the recovery community is rooted in the IO/OB discipline, whereas the CWB and descriptive communities—despite their differences in theory—are balanced in their representation across the cyberpsychology, management, and MIS disciplines. The descriptive community acts as a critical bridge, connecting the CWB community (via its shared commonality in disciplinary focus) with the recovery community (via its shared focus on use outcomes). With these connections and our general framework established, we present Figure 4 as a magnified version of the framework displayed in Figure 3 that delves into each of the components—antecedents and use context (Theme 2), use behaviors (Theme 3), use outcomes (Theme 4), and second-stage moderators of the relationship between use and outcomes (Theme 5).

Prior to continuing, we highlight the methodological divergences across each of the three communities.

Specifically, more than half of the studies in the CWB community ($n = 43$ of 65) and descriptive community ($n = 29$ of 53) were based on self-report, cross-sectional study designs. By comparison, the recovery community has the smallest number of studies yet is the most methodologically rigorous, with 11 of 17 studies based on daily diary and experiential sampling methodology (ESM) designs. We consider these designs as more rigorous not only because of their general superiority to self-report, cross-sectional designs (see Beal, 2015; Gabriel et al., 2019) but also because—since the use phenomenon occurs on a daily, ebb-and-flow basis throughout the workday (Hunter & Wu, 2016)—these designs do well to capture within-workday variation. Notably, 125 of the 135 studies were quantitative in nature, with only two qualitative studies in the CWB community and eight in the descriptive community. In the themes below, we discuss in more detail the methodological strength (or lack thereof) of the evidence on which we evaluate the findings.

FIGURE 4
Integrative Review-Driven Framework



Notes: (1) The dotted-line boxes in the Antecedents section reflect the core insight from Theme 2; (2) Table 4 provides organization as to where specific use behaviors fit within the taxonomy (Theme 3); the passive-relational box is shaded because we did not identify any of these behaviors based on the 135 studies; (3) Outcomes in gray were studied in the active-relational and passive-intrapersonal categories but did not yield discernible patterns (Theme 4); (4) Time spent on use and whether the use experience is positive or negative appear to be potential moderators of the downstream relationships (Theme 5). However, we display these in dotted-line boxes as this is based on only 30 of the 135 reviewed studies.

Theme 2: Almost Everyone Does It (Antecedents; $n = 75$ Studies)

As shown in the left-hand side of Figure 4, we identify both contextual and individual antecedents of use. Contextual antecedents include (a) structural influences like organizational policies aimed at monitoring or preventing use (Oppenhaffen & Claeys, 2017; Stanko & Beckman, 2015; Ugrin & Pearson, 2013) and on-the-job access to information technology resources (Andreassen et al., 2014; Strader et al., 2011; Vitak, Crouse, & LaRose, 2011); and (b) informal, interactional influences like workplace norms (Askew, Buckner, Taing, Ilie, Bauer, & Coovert, 2014; Blanchard & Henle, 2008; Huma et al., 2017), (mis)treatment from coworkers and supervisors (Charoensukmongkol, 2014; Lim et al., 2021; Zoghbi-Manrique-de-Lara, 2007), and family members' response expectations (Gözü, Anandarajan, & Simmers, 2015; König & de la Guardia, 2014; Wan et al., 2019). Individual influences include personality characteristics (Kim et al., 2016; Kim & Byrne, 2011; O'Neill, Hambley, & Bercovich, 2014), work experiences involving job demands and burnout (Aghaz & Sheikh, 2016; Dora et al., 2019; Zhou, Li, Hai, Wang, & Niu, 2021), and intention to engage in use (Askew et al., 2014; Lee et al., 2007; Sheikh et al., 2015).

The bidirectional line connecting individual and contextual antecedents indicates their interconnectedness and influence on each other. Context has a top-down effect in shaping individual influences (e.g., stronger family response expectation could make one's family identity more salient), while individual influences may aggregate as a bottom-up emergent phenomenon to shape contextual influences (e.g., a group of individuals' use preferences emerging as a team climate). Yet few studies employed multilevel methodology to account for level-two team- or unit-level variables; instead, studies accounting for situational antecedents did so at the individual level of analysis by considering contextual influences as individual perceptions (e.g., Jia, Jia, & Karau, 2013; Venkatesh et al., 2021). The most common use of multilevel methodology involved capturing repeated daily experiences nested within individuals (e.g., Hunter & Wu, 2016; Kim, Cho, & Park, 2022).

Two significant findings emerged within this theme. First, motives behind use remain unclear—particularly in terms of whether “cyberslacking” occurs with deviant intentions and whether “recovery” occurs because individuals seek a break

from work for the purposes of replenishment or refocusing themselves. For example, studies investigating “intention to cyberloaf” have correlated these intentions with various contextual factors, including social influence, perceived consequences, and treatment by others (Huma et al., 2017; Pee et al., 2008; Ugrin & Pearson, 2013), but have not necessarily substantiated that the individual's motive is explicit with the intention to engage in workplace deviance. On the contrary, advances in and the proliferation of technology use coincide with an increasing acceptability of cyberslacking (Glassman et al., 2015; Strader et al., 2011), lending further credence to the interpretation that users may believe they are doing nothing wrong or deviant. Similarly, recovery studies identified burnout as a key antecedent of use but were unclear on whether use is indeed a proactive strategy or more of a reactionary response to escalating job demands and a lack of sleep (e.g., Wagner, Barnes, Lim, & Ferris, 2012). Furthermore, studies have often assumed that use motives are volitional. Yet increasing evidence of involuntary use calls this into question—as in the case of ingrained habits (Chavan, Galperin, Ostle, & Behl, 2021), “fear of missing out” (Rozgonjuk, Sindermann, Elhai, & Montag, 2020), and technology addiction (Kim & Byrne, 2011). While we can conclude that use occurs for a variety of different reasons, deviant intentions and proactive energy management strategies appear to take on an oversized role in conceptualization without empirical substantiation across the three communities.

Second, most antecedents focus on when use will occur rather than when use will not occur. The only exceptions are (a) restrictive policies and potential sanctions result in less use (e.g., Stanko & Beckman, 2015) and (b) individuals higher in conscientiousness are less likely to engage in use (e.g., Andreassen et al., 2014). The important and problematic implication—particularly in terms of antecedents focused on when use is more likely to occur—is that they typically focus on only one end of a unidimensional spectrum without consideration of the other end. Reflected through our illustration in Figure 4 using weighted arrows, higher levels of supervisor support are associated with increased use (Lieberman, Seidman, McKenna, & Buffardi, 2011; Russo, Ollier-Malaterre, & Morandin, 2019; with the implication that a lack of supervisor support is associated with less use), higher levels of boredom are associated with increased use (Andel, Pindek, & Arvan, 2022; Metin et al., 2016; Pindek, Krajcavska, & Spector, 2018; with the implication that lower levels of boredom are associated

with less use), and so on. Yet when viewing all antecedents in tandem with each other (reflected in the dotted-line boxes in Figure 4), the opposite ends of various continua are represented by distinct-but-similar constructs predicting use behaviors. For example, both burnout and boredom, including a lack of daily work demands (Kim et al., 2017), predict higher levels of use. Boredom and burnout are two separate constructs, and boredom cannot be conceptualized as the opposite of burnout (or at the low end of the burnout continuum). Rather, this combination suggests a juxtaposition that use may be likely when work is either too intense or not intense enough. In other words, just as employees who are *either* bored or not bored appear to have reasons for use, so too do employees who are *either* high or low on burnout.

We find two other instances as evidence of this patterned juxtaposition. First, just as favorable treatment from supervisors and coworkers promotes a sense of entitlement to engage in use, so too does unfair treatment from supervisors and stigmatization from coworkers promote a sense of injustice that also encourages use (Koay, 2018; Lim, 2002; Zhou, Pindek, & Ray, 2022). Recognizing that favorable treatment is more accurately a form of positive inequity, this suggests that individuals in any team or unit where leader-member exchange differentiation is present hold reasons to engage in use. Second, use stems both from volitional motives—where the behavior is desired by the individual (Pee et al., 2008) or when the user has greater autonomy over their work situation (Dora et al., 2019)—and from situations where use is less volitional (e.g., technology addiction) or controllable (e.g., family interruptions). This suggests that use can be *either* conscious or automatic.

Key insights. This theme underscores that the breadth of use antecedents expands beyond underlying theoretical assumptions and that most individuals are likely to engage in some form of use during the workday. We return to this point in the General Discussion section. In recognition that use is likely to occur unless organizations exert direct control through formal restrictions, we consider whether organizations are better off accepting that use will occur and focusing on ways to maximize positive use outcomes rather than try to prevent use from occurring in the first place. We also encourage a cautious interpretation of the results described above since 48 of the 75 studies used cross-sectional study designs. While Theme 2 identifies numerous correlates of use, another point we address as an area for future research in the General Discussion concerns

empirically parsing which factors are causal from those that are merely correlational.

Theme 3: Varied Uses With an Often-Blurred Focus (Behaviors; $n = 135$ Studies)

Across the 135 studies, we coded for not only the key construct considered in each but also—based on both conceptualizations and operationalizations—the specific behavior(s) embedded within each one. The first emergent finding within this theme is that *measures often blurred together multiple types of use behaviors*. The most prominent example is Lim's (2002) seminal work suggesting that cyberslacking can occur in the form of emailing activities (including checking, sending, and receiving email) and browsing activities (including activities on sports, investment, entertainment, and news websites; downloading content; online shopping; and viewing adult content). On the one hand, Lim's work was not only groundbreaking but also prescient given that these behaviors remain highly relevant two decades later despite technological advances in terms of devices, functionality, and applications. On the other hand, both Lim and more than 40 studies in our review that used her scale condensed "cyberslacking" into a single dimension that encompasses all these behaviors, which obscures subtle yet critical differences across these various activities. This shortcoming is not limited to the CWB literature, as in the case of how Patterer and colleagues (2021) astutely assessed both the medium used (e.g., phone calls, texting, instant messaging, FaceTime, social media, and email) and time spent on different communication activities but consolidated all of this into the single construct of "personal smartphone use at work."

To address this concern, we began by identifying a few exemplar studies across the three communities that add specificity in various ways using unique approaches. For example, Wagner and colleagues (2012) used tracking software to assess cyberslacking based on the number of minutes spent on nonwork-related websites. In the recovery community, Kim and colleagues (2018) distinguished surfing the web and communicating with family members as cognitive and socialization breaks, respectively, while Fritz, Lam, & Spreitzer (2011) not only considered distinctions across checking in with family, surfing the web, and sending personal emails and text messages but also the unique effects of each behavior on various outcomes. Exemplar studies from the descriptive community include Luo, Guo, Lu, and Chen's (2018) distinction across information

acquisition and consumption activities (e.g., searching and browsing), information sharing activities (e.g., posting on social media), and relational communication activities (e.g., email). Given (a) this variability, (b) that all three communities address the same types of underlying behaviors, and (c) technology affordance perspectives (Anderson & Robey, 2017) that acknowledge technology can be used in various ways, we sought to determine whether and how to aggregate these behaviors into distinct, generalizable categories since “use” as a set of (dis)similar behaviors embedded within a single construct offers insufficient detail when trying to fully understand the drivers behind it (Theme 2) and its varied consequences (discussed next in Theme 4).

To provide better organization to this literature, we identified each individual use behavior across the 135 studies. First, we consolidated similar redundancies involving platforms and devices. For example, “web browsing” encompassed both web browsing on a PC and web browsing on a smartphone (even though smartphone devices provide mobility within the workspace for this activity, whereas this activity may occur solely from one’s workstation when using a PC). Similarly, “scrolling behaviors” included both scrolling through Twitter and scrolling through Facebook (even though Facebook and Twitter offer users different functionalities). Next, we took 30 distinct behaviors identified—including behaviors that were conceptualized and operationalized in quantitative studies ($n = 125$) and those discussed by study participants in qualitative studies ($n = 10$)—and sought to determine ways to aggregate these behaviors into distinct categorizations. After eliminating potentially relevant dimensions from consideration due to a lack of available detail within the 135 studies (e.g., time spent on use, ranging from low to high), we determined that behavioral use in the current literature can be organized in terms of two dimensions: (a) *passive versus active* and (b) *intrapersonal versus relational*. The passive versus active use dimension considers how much effort is associated with use (e.g., writing and posting a blog versus scrolling through social media notifications), while the intrapersonal versus relational use dimension considers how much (if any) interpersonal interaction is involved (e.g., checking a news website versus making a personal video call).

Third, all three authors coded each of the 30 identified behaviors into one of four categories: passive-relational, passive-intrapersonal, active-relational, and active-intrapersonal. We calculated a Fleiss’s κ statistic, an interrater reliability statistic for when

more than two raters are involved (interpreted similarly to Cronbach’s α ; Fleiss, Nee, & Landis, 1979), of $\kappa = .90$, suggesting a high level of interrater agreement. The team resolved all disagreements before placing behaviors into categories. Among other reasons, we consider these categorizations important for guiding research forward given their ability to uniquely predict use-related outcomes, discussed below in Theme 4.²

Key insights. Table 4 consolidates a set of core behaviors identified for three of the four categories. Notably, behaviors embedded within Lim’s (2002) seminal work span all three of the identified categories, including web surfing and downloading as passive-intrapersonal behaviors, online shopping as an active-intrapersonal behavior, and emailing as an active-relational behavior. Despite the identification of this 2×2 taxonomy, two challenges remain. First, some behavioral descriptions were vague and—depending on one’s choice of conceptualization—there is a strong possibility for cross-categorization of the same behavior. For example, while we position “gaming” as a generally active, intrapersonal behavior (e.g., Wordle, a popular word-guessing game that was acquired by the *New York Times*), it is plausible that it is also a relational activity when it occurs in a multiplayer format (e.g., popular online games including *Fortnite*, *Fall Guys*, *Call of Duty: Warzone*, and *Sea of Thieves*; all of which are available on PC and two of which are available on Android and iOS; Scully, 2022). Relatedly, based on our review of the 135 studies, we did not identify any passive-relational behaviors. Nonetheless, some activity could be conceptualized to fit within this category. For example, creating a post where a user uploads and captions a photo on Instagram is likely more active than reposting or liking a photo from another user (which is more passive but might still be considered somewhat relational in nature).

Second, in recognition of this limitation—and the fact that this taxonomy is review-driven rather than original theorizing—we not only encourage future research to consider placing these behaviors in different parts of the 2×2 taxonomy but also to consider from a theory-development standpoint whether the addition of a third dimension is warranted. As we discuss further in Theme 5, a small amount of evidence suggests the possibility of an

² A more detailed version of Figure 4 that reflects the step-by-step analysis that led to the generation of the 2×2 taxonomy is available at the OSF link: https://osf.io/urq5h/?view_only=47d58120a2b44ac3976dd896ed0a4f71

TABLE 4
2 × 2 Taxonomy of Technology Use Behaviors for Nonwork-Related Purposes at Work

	Passive	Active
Relational		<ul style="list-style-type: none"> • Email or instant messaging^a • Phone calls • Blogging or maintaining a personal website • Posting or reposting on social media • Liking or commenting on social media posts
Intrapersonal	<ul style="list-style-type: none"> • Web surfing or using nonwork websites^a • Watching videos • Scrolling through social media • Downloading^a 	<ul style="list-style-type: none"> • Job-seeking • Shopping^a • Machine use (e.g., scanning or printing) • Learning (nonwork-related material) • Gambling or gaming

Notes: Behaviors were identified within the 135 studies of review; for parsimony, we eliminated redundancies (e.g., scrolling through Facebook versus scrolling through Twitter). All three authors coded each identified behavior into one of the four categories; we calculated a Fleiss's κ statistic of $\kappa = .90$, suggesting a high level of interrater agreement. Reflecting the minor level of disagreement, we recognize that some behavioral descriptions were vague and additional detail could justify inclusion within a different category (e.g., more passive or relational forms of gaming). Because this table is emergent from our review, we highlight the need to identify additional behaviors in future research—especially passive-relational.

^a Behaviors are items in Lim's (2002) cyberslacking measure, which was used in more than 40 of the reviewed studies (as a single-factor scale) in the CWB community.

additional dimension that considers time spent on use (ranging from shorter to longer durations). For example, an employee taking one or two minutes to complete the *New York Times* Wordle as a break between tasks is not only quicker but also likely more acceptable than spending two hours playing Fortnite. As this is speculative based on the content of the reviewed studies, we return to this point in the General Discussion section.

Theme 4: Subtle Patterns Among Heterogenous Findings (Outcomes; $n = 67$ Studies)

Among the 67 studies considering the downstream effects associated with use, the most examined outcomes were job performance, work engagement, work attitudes and motivation, well-being, and work-nonwork outcomes (e.g., family-to-work conflict). When considering outcomes within the context of each community, there were generally inconclusive patterns involving direct relationships, with each community documenting a relatively even balance of positive, mixed/neutral, and negative findings. For example, cyberslacking at times had positive effects on job performance and work engagement (Chavan et al., 2021; Lim & Chen, 2012) but at other times had negative effects (Hadlington & Parsons, 2017; Zoghbi-Manrique-de-Lara, 2012). Descriptive studies examining social media use suggested simultaneous benefits and drawbacks, namely in terms of enhancing positive job attitudes (Charoensukmongkol, 2014; Fusi &

Feeney, 2018) but having negative impacts on job performance (Cao & Yu, 2019; Lu, Zhong, Sun, & Qin, 2022). While recovery studies suggested positive outcomes associated with job performance (Conlin et al., 2021; Wu et al., 2021), work engagement (Chong et al., 2020; Parker et al., 2021), and job satisfaction (Hunter & Wu, 2016), some studies found that use was restorative for well-being (Zhu, Kuykendall, & Zhang, 2019), whereas other studies found that use further depleted energy and resources (Fritz et al. 2011).

This general inconclusiveness within each community is not entirely surprising given that the three communities inherently investigate the same set of use behaviors while adopting divergent underlying conceptual and theoretical arguments. Compounding the operationalization and measurement ambiguity issues associated with use identified in Theme 3, another reason for this inconclusiveness may be study methodology: 46% of the 67 studies that investigated use-related outcomes ($n = 31$) employed cross-sectional designs. As we discuss below, some findings might reflect methodological artifacts since—barring the exception of multitasking (addressed in the General Discussion)—use would result in simultaneous productivity loss but could produce time-lagged productivity gains not captured in cross-sectional designs.

To further bridge the three communities and identify more discernible patterns, we reassessed patterns of findings related to use outcomes according

to the 2×2 taxonomy identified in Theme 3. Four subtle patterns emerged, highlighted in the right-hand side of Figure 4. First, active-relational behaviors enhance work attitudes and motivation—specifically job satisfaction. Charoensukmongkol (2014) explained this finding based on social support theory, where interactions with nonwork-related others not only enhance the quality of a user's workday but also serve a utility-based function in providing an outlet to share excitement, vent about a stressful work situation, and so on (see also Moqbel et al., 2013). This rationale aligns with job characteristics theory (Hackman & Oldham, 1975), which suggests that greater autonomy—in this case, the ability to engage in active-relational use throughout the workday—will enhance job satisfaction for employees.

Second, active-relational behaviors enhance work-nonwork outcomes including partner relationship satisfaction (Farivar & Richardson, 2021). The relational dimension accounts for this finding since this use affords social benefits where individuals feel close and connected to personal contacts throughout the workday (Patterer et al., 2021), while the active dimension accounts for this finding in that nonwork others—and, specifically, one's spouse or romantic partner—perceives use as “as a sign of support and engagement with the family, with positive repercussions” on not only relationship satisfaction but also other outcomes associated with the fulfillment of nonwork-related role expectations (Russo et al., 2018: 3).

Third, active-relational behaviors result in decreased work-related well-being, primarily in terms of the emotional exhaustion dimension of burnout (Zivnuska et al., 2019). This results from increases in allostatic load (i.e., the accumulation of stress) through increased effort expenditure. Even when relational interactions are positive, the “active” aspect simultaneously risks depriving users of the restorative effects associated with psychological detachment from work that otherwise might be afforded through more passive or intrapersonal behaviors (Braukmann, Schmitt, Ďuranová, & Ohly, 2018). This reasoning is reinforced through the lens the challenge-hindrances stressor framework (e.g., Cavanaugh, Boswell, Roehling, & Boudreau, 2000) where active-relational behaviors are generally eustressful (i.e., positive stressors) but are accompanied with energy depletion as a byproduct or side effect. Indeed, meta-analytic evidence confirms that despite differences between challenge (i.e., positive) and hindrance (i.e., negative) stressors, relationships with some key variables—including psychological strains

and physical health—are “consistently negative” for both (Mazzola & Disselhorst, 2019: 949).

Fourth, passive-intrapersonal behaviors—including watching online videos and web browsing—enhance work engagement (e.g., Chong et al., 2020; Kim et al., 2022). The common explanation for this finding suggests that the combination of passive (less effortful and therefore not exerting as severe of an effect on allostatic load) and intrapersonal (more isolating and individualistic) behaviors has a similar effect to activities described in mindfulness research as a “work-related regulatory variable” (Long & Christian, 2015: 1409; see also Glomb, Duffy, Bono, & Yang, 2011; Hülshager, Alberts, Feinholdt, & Lang, 2013), where these behaviors appear to enhance self-regulation and provide restorative effects. Importantly, the positive effects involving the link between passive-intrapersonal use behaviors and enhanced work engagement are time-lagged. For example, the restorative effects from passively watching an online video may manifest as increased work engagement approximately one hour after the activity (Bennett et al., 2020; Syrek et al., 2018). This time-lagged finding is more obvious when considering the implications of a momentary or cross-sectional assessment, as an employee is likely highly *disengaged* from work while watching an online video (i.e., while in the middle of use) but may feel more engaged at work after that short break.

Key insights. Only by considering findings through the lens of our emergent 2×2 taxonomy, which reflects multiple use dimensions rather than broad constructs, are we able to derive more consistent patterns involving use and outcomes. Although we find that active-relational behaviors enhance work attitudes and motivation and work-nonwork outcomes but result in decreased work-related well-being, and we find that passive-intrapersonal behaviors enhance work engagement, it is worth noting the limitations that persist in the outcome-focused studies when considered at this more nuanced level.

For example, studies regarding both active-relational and passive-intrapersonal behaviors examined job performance, but findings remained mixed and resulted in inconclusive patterns. Returning to our consideration of study methodology, the two largest categories were cross-sectional ($n = 31$ of 67; 46%) and daily diary, ESM, and time-lagged designs ($n = 22$ of 67; 33%). Although we lacked enough evidence to draw a firm conclusion, we speculate that the mixed patterns are partially accounted for when considering simultaneous versus time-lagged effects:

cross-sectional studies that simultaneously assess use and job performance may be likely to find a negative relationship *during* use (which is to be expected given the scope of our definition and that these studies did not account for multitasking and holistic technology use), whereas time-lagged studies are more likely to find a positive relationship *after* use has occurred. For example, findings of studies with cross-sectional designs suggest that use negatively impacts job performance (Cao & Yu, 2019) and work engagement (Orhan, Castellano, Khelladi, Marinelli, & Monge, 2021)—findings consistent with the conceptualization that momentary attention and effort is primarily devoted to nonwork activities. On the other hand, findings of studies with daily diary- and ESM-based designs suggest that use positively impacts job performance (e.g., Kim et al., 2018; lag from morning survey to end-of-day performance) and work engagement (e.g., Chong et al., 2020; lag from lunchtime survey to end-of-day engagement). Rather than viewing these two sets of findings as contradictory, we suggest these findings are complementary since they account for and allow for the unfolding of positive effects throughout the workday, even when there may be momentary performance or engagement drops when engaging in nonwork activity. Taken together, our integrative review points to the likelihood of a more complex pattern involving the relationship between use and its outcomes that only becomes clear when accounting for time lapses.

Few studies considered the effects of specific active-intrapersonal behaviors (e.g., online shopping and gaming), and no studies considered passive-relational behaviors. We also considered contingencies affecting the use-outcome relationships even though fewer studies ($n = 30$) included moderators. Given the breadth of moderators considered within the context of this smaller sample size, we discuss these findings separately below in Theme 5 with the caveat that these findings are slightly more speculative in nature and warrant further substantiation in future research.

Theme 5: Missing Specifics in the Second Stage (Moderators; $n = 30$ Studies)

Undoubtedly, the impact of use on outcomes is more than just a direct relationship. Among the 30 studies considering moderators, many either repositioned or uniquely positioned various antecedents discussed in Theme 2 (e.g., purposeful work buffered the negative relationship between online news consumption and work engagement; Andel et al.,

2021). Yet these were often one-off findings that offered little indication of more consistent patterns. Only two broader patterns emerged where (a) time spent on use and (b) the valence of the use experience affect whether downstream outcomes are more positive or more negative.

Studies examined time spent on use in three ways. First, some studies identified optimal effects associated with use duration. Bennett et al. (2020) used an experimental design where participants watched online videos (either from the show *Saturday Night Live* as a detachment activity or a guided mindfulness meditation video as a relaxation activity) for a 1-, 5-, or 9-minute duration, finding a variety of positive effects on post-use vigor, attention, and reduced fatigue—but with some indications that the 5-minute duration was optimal compared to the 9-minute duration. In another experimental study, Conlin et al. (2021) found that a 40-second within-task break (versus a control condition with no break)—specifically, looking at pictures of flowers and rooftop greenery on a computer screen—enhanced task performance via psychological detachment. In addition to considering the time of day during which use occurred, Hunter and Wu (2016) found an interaction between the length and frequency of use, suggesting that longer durations of use were more beneficial when they occurred less frequently throughout the workday.

Second, studies identified curvilinear relationships. Although not as precise in terms of a temporal measure, She and Li (2023) not only found an inverted U-shaped curvilinear relationship between cyberslacking and task performance, suggesting that “some” use is optimal compared to both excessive use and no use at all, but also identified time management skills as an important moderator of the relationship. Similarly, Charoensukmongkol, Moqbel, and Gutierrez-Wirsching (2017) found a U-shaped relationship involving social media use and job burnout, again indicating the optimality of some use.

Third, although not considering moderators per se, other studies investigated the role of time in terms of construct conceptualizations and operationalizations—including excessive use (Cao & Yu, 2019), internet addiction (Kim & Byrne, 2011), social media addiction (Zivnuska et al., 2019), use intensity (Charoensukmongkol, 2014; Moqbel et al., 2013), and frequency (i.e., number of uses per workday; Berkowsky, 2013)—often finding that excessive use reduced positive outcomes.

Studies considering the valence of the use experience invoked affective events theory (Weiss & Cropanzano, 1996) to investigate the emotional

aspects associated with use experiences (e.g., Chong et al., 2020; Stratton, 2010; Zhou et al., 2022). For example, multiple studies found that active-relational use involving nonwork communication included an appraisal component: feelings of anger (e.g., when perceived as a disruptive interruption) or guilt (e.g., when use is cut short or limited) (Derks et al., 2021; Horvath et al., 2021; Janicke et al., 2018) affected outcomes, including relationship satisfaction with one's partner (Russo et al., 2018). On the positive side, the level of enjoyment influenced the extent to which family communication enhances family satisfaction and family-to-work enrichment (Wu et al., 2021). These studies typically focused more on nonwork-related outcomes and attitudes and less on job performance and work engagement. Nonetheless, these findings connect back to Theme 1 by adding more detailed insight as to when use is considered a resource (i.e., positive experience) versus a demand (i.e., negative experience).

Key insights. Findings involving second-stage moderators point to a pattern that an ideal scenario to maximize downstream effects involves some small number of positive use experiences that are generally short in duration and occur throughout the workday. As we already cautioned, however, this emergent pattern is not only based on only 30 of the 135 studies but also remains relatively vague. Since we consider this a more speculative finding, we denote this theme in Figure 4 using a dotted-line box.

GENERAL DISCUSSION: A ROAD MAP FOR STUDYING THE USE PHENOMENON

Integrating three different communities, we broadly defined *technology use for nonwork-related purposes at work* (“use”) as a behavioral phenomenon consisting of three interrelated components. Use behaviors (a) are technology-facilitated, (b) primarily focus on non-task-related activity, and (c) occur during work time, highlighting and confirming through our review of 135 studies that use itself is neither inherently good nor inherently bad (as previously assumed) but rather is shaped by a variety of individual and contextual factors that include a full range of attributional perspectives ranging from positive to neutral to negative. Extending these definitional components and reflecting both substantiated and still understudied areas, we present Table 5 as a summary “how-to” guide for investigating more concrete use behaviors under this umbrella going forward.

First, we identified that specific use behaviors can be generally categorized along two dimensions:

passive versus active and intrapersonal versus relational. Indeed, as shown in Table 5 and discussed above, all three communities account for variability across both dimensions. Therefore, if scholars determine that they are interested in studying “use” (satisfying our criteria in the top of Table 5), it will be important to specify what type(s) of use they wish to explore—including whether the focus is on one specific use behavior or a comparative study that considers similarities and differences between two or more use behaviors. We anticipate this will be a critical paradigm shift for systematically addressing key questions around why certain use behaviors occur and which use behaviors tend to yield more positive versus negative outcomes, overcoming the blurred approaches to date that seek to address these questions by combining distinct behaviors.

Second, we encourage scholars to study concrete use behaviors in ways that account for a core set of use experience considerations. Evidence to date—albeit scattered across the three communities and still under-researched—suggests that use experiences that last for shorter durations and are more positive in valence are likely to produce the greatest benefits. Although we offered review-driven evidence above to substantiate this claim, we note that it was based on only 30 of the 135 studies, suggesting additional research is warranted to verify this conclusion.

Third, since we anticipate that simultaneous effects (e.g., work engagement while use is occurring) differ from time-lagged post-use effects (e.g., work engagement 30 minutes after use occurs), we encourage paying careful attention to study methodology. Although repetitive over longer durations, use is generally a discrete phenomenon that can unfold in a matter of hours within a single workday—suggesting that daily diary and ESM studies may be the most comprehensive approach to capture its full scope (i.e., individual and contextual antecedents, use behaviors, outcomes, and second-stage moderators) within a single study setting. However, other study designs can be useful for answering specific questions. For example, time-lagged studies spanning months or years that integrate human resource management (HRM) system-based data can address the cumulative effects over time (e.g., how the number of use hours affects sales productivity or other objective performance metrics), while qualitative studies ($n = 10$ of 135) can provide deeper insight into use experiences. Experimental designs hold value in rigorously controlling for the use experience factors and determining ideal use durations, while policy-capturing studies can provide more

TABLE 5
Using Definitional Components of “Use” to Bridge Abstract Conceptualization With Concrete Behaviors to Study

	Guiding Question	CWB	Recovery	Descriptive	Integrative Conceptualization
Definition & Scope	Is use technology mediated?	Yes	Yes	Yes	Technology-mediated
	Is use job-/task-focused?	No	No	No	Non-task-related activity
	When does use occur?	Work time	Between tasks	Work time	During working hours
	Where does use occur?	At work	At work	At work	At the workplace or remotely
	How do scholars attribute the behavior?	Negatively	Positively	N/A	No attribution
Specific Behavior(s)	Is communication involved?	Sometimes	Sometimes	Sometimes	Intrapersonal versus relational
	How much effort is exerted?	Variable	Variable	Variable	Passive versus active
Use Experience	For how long does the behavior occur?	Variable	Short	Variable	Moderator
	What is the valence of the use experience?	N/A	Positive	Variable	Moderator
Research Design	On what study methodologies are the current findings based?	Cross-sectional	ESM/daily diary	Cross-sectional	ESM/daily diary Time-lagged Qualitative Experimental Policy capturing
Other Key Considerations	Is the behavior voluntary?	Yes	Yes	Sometimes	Future research (Theme 2)
	Is the behavior visible and/or monitored?	Rarely addressed	N/A	N/A	Future research (Theme 2)
	How often does the behavior occur?	Rarely addressed	N/A	Rarely addressed	Future research (Theme 5)

insight from an HR standpoint about how organizations and managers seek to regulate use. These ideas may be particularly relevant to scholars more oriented toward the CWB and descriptive communities since both areas remain dominated by cross-sectional study designs.

Finally, at the bottom of Table 5, we identify the importance of understanding additional use experience considerations regarding whether the behavior is visible or monitored, whether use is voluntary or involuntary, and how often use occurs (e.g., number of times per day). These categories were addressed across the 135 studies (warranting consideration) but too infrequently to lend themselves to analysis. Nonetheless, when not considered as key predictors or moderators, these should be included as control

variables (e.g., in regression analyses) or constants (e.g., in sample characteristics, like a sample of remote workers subject to the same monitoring software where behaviors are “visible”) to better ascertain consistent patterns of findings going forward.

For structural purposes, we organize our future research agenda below around each of the five themes discussed above, offering deeper insights that complement the “how-to” table (Table 5). Since the end goal is to more systematically understand $X \rightarrow Y$ effects using our integrative review as an organizing framework, we encourage future research to focus on intersecting insights across our five themes rather than investigating each as a standalone piece. For example, consider cross-domain family communication as an active-relational behavior. More detail

is required about the discrete use behavior (Theme 3): studies must account for variation in media richness (Byron, 2008) and which medium is used, as the degree of “activeness” can influence whether the work role is simultaneously enacted or neglected (Theme 4), the duration of the use (Theme 5), and whether use is synchronous or occurs at intervals. A negative versus positive impetus (Theme 2) likely shapes both the tone of the initial exchange and the nature of the use experience, including perhaps even the choice of technology (intersecting Themes 3 and 5), all of which influence work and nonwork outcomes (Theme 4). Integrating theory (Theme 1) and connecting to practice, how might “enabling policies” that encourage use (Bourdeau, Ollier-Malaterre, & Houllfort, 2019) impact outcomes, and what necessary parameters must organizations set in guiding or governing use? Given the complexity of these questions, each section below also includes ideas that embed multi-theme overlap.

Theme 1: Integrating Work–Life Theory, Technology, and Post-Pandemic Considerations

We encourage a paradigm shift for theory development surrounding use. Instead of broad deductive approaches that holistically conceptualize all forms of use and apply taken-for-granted a priori framing that use is positive or negative, nuanced inductive approaches that center their focus on building around specific use behaviors appears more fruitful. One approach is to integrate work–life theory considerations by juxtaposing use behaviors between family-related versus other nonwork-related purposes—especially considering the various ways in which the pandemic altered home and family life (Perrigino & Raveendhran, 2020). Leading scholars opined that the pandemic had a multiplicity of complex effects, including enhanced longingness to connect with family members to overcome feelings of isolation (Christianson & Barton, 2021), enjoyment associated with the ability to spend increased time with family members when quarantining together (Amis & Greenwood, 2021), and a general reshaping of the underlying meaning of “work–family balance” as this issue increased in salience (Hoff, 2021; Milliken, Kneeland, & Flynn, 2020). These broad changes involving shifts in work–life narratives, sensemaking processes, and family identity salience may influence the logistics and implementation of mandatory return-to-work initiatives where enhanced family values shift perceptions of family-related use as permissible or encouraged—particularly compared to other nonwork-related

uses. Integrating other themes, antecedents like family motivation (Menges, Tussing, Wihler, & Grant, 2017) should be considered in tandem with specific family-related outcomes, including the impact not only on spouses or partners (Ferguson, Carlson, Boswell, Whitten, Butts, & Kacmar, 2016) but also one’s children (Steiner, Hirschi, & Wang, 2023).

We also encourage future theorizing to place a central focus on the technology itself, especially since key work–life theories often at best feature the role of technology as a tangential element despite the increased proliferation of novel technological tools that facilitate the simultaneous fulfillment of work and nonwork roles (Walden, 2016) and the increased blurring of work and nonwork boundaries (Ollier-Malaterre et al., 2013). Integrating Theme 3, we encourage future research to devote attention to how various features and functionalities of different devices and applications create divergences compared to other non-technology behaviors that are construed as CWBs or recovery activities. For example, use can reflect a more efficient workday break for recovery-related purposes that occurs in the physical confines of one’s workspace and provides immediate gratification compared to a walk outside that requires physical relocation and takes additional time spent exiting and re-entering the building. Yet use might be a more pernicious break where employees remain tethered to their devices or become addicted to constantly checking nonwork applications from a “fear of missing out” (Rozgonjuk et al., 2020). This suggests that use is a double-edged sword, ripe for theory development. Another delineation to consider is occupational differences: employees whose jobs are largely non-technology driven (e.g., manual labor) may stand to benefit the most from use-related breaks, whereas employees whose jobs require constant laptop or technology use may stand to benefit the most from breaks that do not involve use.

Regarding implications for practice, organizations must recognize use as a holistic phenomenon and the possibility that statistics on the costs of lost productivity (CWB) may be overstated or misleading if they fail to capture productivity gains or cost savings from reduced burnout (recovery). Throughout the interview, recruitment, socialization, and onboarding phases, use can be a point of clarification in establishing the psychological contract between the employee and the organization. Another relevant consideration bridging theory and practice is whether employees and managers hold similar expectations as to whether return-to-office initiatives encompass

increased nonwork-to-work permeability. The pandemic increased work-to-nonwork permeability, so perhaps there is an expectation that subsequent nonwork-to-work permeability will increase and further enhance the normativeness of use. Yet perhaps work-to-nonwork and nonwork-to-work permeability expectations will bifurcate, becoming further unbalanced where there is greater intrusion of work-related influences into the nonwork domain as opposed to vice versa.

Theme 2: Everyone Does It ... So What Now?

Because most individuals appear likely to engage in some form of use, this prompts questions about how to consider antecedents of use going forward. First, for studies that root themselves within the CWB and recovery communities, more rigorous investigations are required to determine the degree to which deviance and proactive energy management strategies, respectively, are strong underlying motivations of use. This will help to better determine and distinguish when use is more of a CWB versus a recovery activity and—more importantly—align the use behavior with underlying conceptualizations and definitions of CWB-oriented (e.g., cyber-slacking) and recovery-oriented (e.g., workday break) constructs. Second, we call for a greater integration of boundary and border theory (Ashforth et al., 2000; Clark, 2000). One useful line of inquiry is to determine not only whether integrators (versus segmenters) prefer use but also—bridging Theme 3—what types of behavior(s) each engage in and whether these considerations are limited to family-specific influences or apply more broadly to other nonwork-related, intrapersonal activities.

Third, future research should consider underlying theoretical paradigms and insights from disciplines beyond those represented in our review (i.e., cyberpsychology, IO/OB, management, and MIS) to better understand why and when use occurs. Clinical psychology perspectives can better address the nuances of technology addiction and how this influences use behaviors. For example, one practical consideration is to encourage employees to take control of their use behaviors through mindfulness activities and other related interventions to detach from their personal devices (e.g., placing personal devices in a time-lock container) while at the workplace. Another consideration for practice is for organizations to offer health and counseling services where addictive technology use is evident. This is of increasing importance since many jobs—especially in a post-pandemic

era—involve intense technology use; yet use remains a generally overlooked experiential component with only the descriptive community lending credence to these considerations to date. Sociology and institutional theory perspectives can better address how normative expectations and post-pandemic narratives shape use expectations. For example, is the narrative of the ideal worker (i.e., the family breadwinner who prioritizes commitment to work over nonwork-related responsibilities; Dumas & Sanchez-Burks, 2015) changing to include expectations that the “new” or “modern” ideal worker is an individual who simultaneously remains connected to family throughout the workday while still fulfilling work-related responsibilities?

New technology tools—including blocking, monitoring, and surveillance software—that facilitate organizational efforts to curb use continue to emerge. This offers an opportunity to further study the visibility of use behaviors, a consideration which has largely been confined to the CWB community and within the physical office setting. Integrating control theory (Cardinal, Kreutzer, & Miller, 2017), informal restrictive controls (including supervisor influences, unit norms, and organizational culture) can reinforce signals within a “strong” HRM system context (Bowen & Ostroff, 2004) that use is prohibited or discouraged. Yet if most employees are likely to engage in some form of use, organizations must consider whether it is more reasonable to try to eradicate unwanted forms of use or accept that use will occur and try to maximize positive downstream outcomes.

There are two specific considerations in this dilemma. First, are organizations able to thread the needle, so to speak, by balancing workloads and the treatment of others in ways where employees do not seek use? Stated differently—and based on our findings from Theme 2—organizations pursuing this approach would need to ensure, for example, that employees are neither too bored nor too burned out, treated neither too favorably nor too unfavorably, and so on. Given the potential for significant between-person variance, this may be an impossible task. Second, a more proactive—and realistic—strategy that bridges research and practice would be for organizations to pilot test (e.g., through quasi-experimental interventions) and design their own boundary permeability policies that encourage certain types of use behaviors, determining whether and which types of behaviors lead to positive versus negative outcomes (connecting Themes 3 through 5).

The recovery literature makes the strongest case for organizations to encourage use given the benefits

associated with psychological detachment. Yet a unique angle for future research to consider is the case for organizations to encourage use—specifically in the form of family-related communication—based on work–life flexibility policy research. Enabling policies are meant to empower employees and afford them control over when, where, and how work is conducted (Bourdeau et al., 2019). Typically studied in the form of voluntary work-from-home arrangements and leave policies (Kossek, Perrigino, & Lautsch, 2023), these policies are supported by the logic underlying the “business case” suggesting that employees not only achieve better work–life balance but also are more productive when they have more autonomy to tend to nonwork-related demands and needs (Beauregard & Henry, 2009; Kelly et al., 2008). Although we found no empirical investigations of enabling policies as a contextual influence among our 135 studies, we encourage future research to determine whether this same logic applies when considering enabling workplace-related policies that govern nonwork-to-work-related influences in more empowering ways. With the caveat that affording excess control to employees may do more harm than good (Mazmanian, Orlikowski, & Yates, 2013; Perrigino, Dunford, & Wilson, 2018), future research should also determine what restrictions to embed within enabling policies to optimize outcomes, subsequently informing best practices.

Theme 3: Additional Dimensions and Deeper Understanding of Use Behaviors

Building on our integrative framework, future research can consider other dimensions beyond active/passive and intrapersonal/relational to characterize use. For example, dimensions regarding the quality of the use experience and contexts surrounding use can be meaningful additions. We also encourage future research to creatively distinguish and characterize distinct behaviors by integrating other areas of study within the IO/OB and management literatures. For instance, our work may connect to the job crafting literature (Wrzesniewski & Dutton, 2001), where different uses—either specific behaviors or entire quadrants of our 2×2 taxonomy—can be distinguished between approach versus avoidance forms of job crafting (Bruning & Champion, 2018), informing investigations addressing use motives (Theme 2) and downstream outcomes (Theme 4).

When further calibrating use behaviors, multidimensional scaling approaches may be preferable to taxonomies since (a) our dichotomous categorizations

more realistically reflect continua along which use can range, and (b) taxonomic approaches rapidly increase in complexity and become burdensome where the addition of a third (e.g., quality of experience) or fourth (e.g., visible by others versus occurring in private) dimension requires eight ($2 \times 2 \times 2$) and 16 ($2 \times 2 \times 2 \times 2$) distinct conceptualizations, respectively, to fill out each cell (see Hollenbeck, Beersma, & Schouten, 2012).

Although typically unaddressed within our 135 reviewed studies, an adjacent area—and perhaps overlooked reality—in need of future research is multitasking: use behaviors that occur for both work-related *and* nonwork-related purposes, also referred to as “holistic” or “simultaneous” technology use (Walden, 2016; e.g., toggling back and forth between work-related communications on Slack and scrolling on Instagram). For example, social media tools—considered in terms of their nonwork-related affordances within our 135 reviewed studies—also aid organizational efforts in organizing workers and facilitating work-related tasks (Leonardi & Vaast, 2017; McFarland & Ployhart, 2015). As one suggestion, tracking software that monitors use associated with different applications and webpages might clearly distinguish some nonwork-related uses (Arciniega, Stanley, Puga-Méndez, Obregón-Schael, & Politi-Salame, 2019; Corgnet, Hernán Gonzalez, & Mateo, 2015; Jeong, Jung, & Lee, 2020) and likely represents the pathway for most clearly and objectively distinguishing when and whether Google (by tracking search histories) or Slack (by content-analyzing conversations and channels) is used for work- or nonwork-related purposes.

The Harvard Business School case *Fresh to Table* provides a relevant example where three employees are terminated for “spending substantial time on internal social media channels disparaging other employees, citing days when they skipped work, and referring to other instances of unprofessional behavior” (Mukunda & Holtom, 2017). An important conceptual distinction to bridge research with practice is to consider to what extent use is work-related versus nonwork-related, including parsing apart distinctions involving non-task-related (but still work-related) activity (e.g., active-relational behaviors in the form of workplace gossip or conversations with coworkers about nonwork-related activities). Returning to the organizational dilemma highlighted in Theme 2, a key consideration is whether organizations are better off engaging in different types of monitoring (see Kellogg, Valentine, & Christin, 2020; Myers, 2023; Raveendhran & Fast, 2021 for relevant

distinctions) or accepting that use for non-task-related and nonwork-related activities will occur and instead manage the back end of the phenomenon by seeking to optimize outcomes. One relevant determinant is whether organizations seek to create and enforce rule-based or more casual workplace cultures and how use aligns with or hinders corporate strategy. Organizations should also establish what constitutes acceptable use versus unacceptable use. Blocking pornography sites may be a positive standard with few or no drawbacks but monitoring communications—even with family members—creates complications that impact key outcomes, including employee trust (Thiel, Bonner, Bush, Welsh, & Garud, 2023). Encouraging use during the workday to establish a casual organizational culture while monitoring communications for security-related purposes (Stanko & Beckman, 2015) or subsequently terminating employees for improper use likely creates mixed signals or a “weak” culture (Bowen & Ostroff, 2004).

Focusing on specific uses will inform practice in two additional ways. First, organizations can consider cultural assessments to identify the desires and outcomes associated with specific uses. For example, family communication might point to a need to address a culture of overwork, whereas online gaming resulting from boredom could point to a need to consider job redesign. Second, supervisors might encourage specific forms of use. Connecting to the concepts of family-supportive supervision, family-supportive supervisor behaviors, and work–life supportive leadership (see Crain & Stevens, 2018; Kossek, Perrigino, Russo, & Morandin, 2023 for reviews), active-relational communication behaviors with family throughout the workday can be added to the supportive supervisor’s repertoire as, for example, a creative management practice where the supervisor proactively grants a 5–10-minute break to check and engage in personal communications or acts as a role model by engaging in these behaviors themselves, sending clear signals around the acceptability of such use.

Theme 4: Making Subtle Patterns More Explicit and Systematic

Although we were able to parse apart subtle patterns involving the relationships between specific types of behaviors and outcomes, more work is required in this area. Given our focus on technology, one important consideration is whether there are any technology-specific outcomes that warrant

investigation compared to other non-technology CWB and recovery activities—such as experiencing increased eyestrain from staring at a screen and technostress. Intertwining Theme 3, future research should consider how or why different use behaviors are likely to result in different outcome patterns. For example, nonwork-related interruptions (e.g., family-interrupting work behaviors, which include taking a call from a partner while at work; Russo et al., 2018) are likely to produce more negative outcomes since these are generally unwanted and unanticipated. However, studies can consider the impact of how these lead to positive use experiences and other benefits—as in the case of pleasant surprises where a family or friend calls during work hours to share excitement and good news. Similarly, studies can distinguish the impact of whether use involves respites (such as passively browsing clothing websites) or chores (such as shopping online to order food for the family pet) (Chong et al., 2020). On the one hand, chores might be more cognitively demanding and depleting, yielding negative outcomes. On the other hand, the sense of accomplishment associated with the completion of the chore might yield more positive outcomes.

Although we uncovered contextual influences in Theme 2, outcomes primarily focused on the individual level of analysis. Nonetheless, we anticipate that use impacts outcomes across multiple levels and, specifically, the team or unit level of analysis. Future research might consider how use simultaneously enables and makes some aspects of team-related processes more efficient while undermining others. For example, active-relational use might enhance team cohesion, whereas intrapersonal use might reflect an aloofness of coworkers that erodes team cohesion, much in the way that employees working on-site may express dissatisfaction about the ability to interact and bond with coworkers who work remotely (Golden, 2007). Organizations can offer use in different forms to encourage specific group behaviors—such as setting up a gaming console in a break room to encourage active-relational gaming that builds camaraderie and facilitates coworker interactions.

Building on this practical consideration, supervisors should receive training and education about positive and negative effects associated with different uses, once subsequent research is able to thoroughly assess what constitute “best practices.” Supervisors should also be reminded or made aware that idiosyncratically allowing use for individual employees can impact other workgroup members in

potentially negative ways and—perhaps ironically or unintendedly—drive other members' use through perceived negative inequity. Finally, organizations should consider what types of metrics are available to quantify the effects of use on top- and bottom-line performance. Just as it is difficult to quantify the top- and bottom-line effects of work–life flexibility policies (Perrigino et al., 2018), so too is more work required to quantify both real-time and time-lagged (Theme 5) effects involving productivity gains and costs associated with lost productivity.

Theme 5: Temporal Considerations to Complete the Framework

In Theme 5, we highlighted how the back end of our framework related to contingencies affecting the relationship between use and outcomes remains understudied. Due to the temporal imprecision of the reviewed studies, we were unable to integrate time as a central element within our review-driven framework. Nonetheless, the implication is that the use phenomenon plays out in a condensed range—from a matter of hours to a 24-hour span. To this end, more work is required to determine whether there is indeed an optimal length for designated use durations, the degree to which optimal length is likely contingent on the type of use, and in tandem with the number of use occurrences throughout the workday (Hunter & Wu, 2016). These can be positioned as a theoretical element concerning the context of use (responding to calls for greater consideration of time in work–life theory; Powell, Greenhaus, Allen, & Johnson, 2019; Theme 1), an additional dimension that distinguishes types of use behaviors (Theme 3), or—as discussed here—a moderator that affects downstream outcomes.

As noted in Theme 4, use is still equivalent to time spent away from work—reflecting productivity-related loss from a momentary assessment standpoint—but balanced against potential lagged or subsequent productivity-related gains (e.g., 1 hour later; Syrek et al., 2018). While it appears from our review that duration of use is a key moderating characteristic, and that short use durations are “optimal” for maximizing positive, downstream outcomes (e.g., curvilinear patterns where some use is better than both excessive and no use), the *downstream* aspect is critical as these effects require the passage of time to manifest. In line with our call for more event-focused daily diary and ESM studies, a useful endeavor for future research is to try to determine the elapsed time reflective of the break-even or

inflection point where subsequent productivity gains equate to and exceed the lost productivity from time spent on use. Drawing on decades of research on circadian rhythm, future research can also consider integrating additional considerations of individual differences as moderating conditions—as in the case of how optimal use times as well as the number of uses per day might differ for those prone to morningness (i.e., “early birds”) versus eveningness (i.e., “night owls”) (Horne & Östberg, 1977)—to assess how use can effectively recharge individuals when they experience ebbs (rather than flows) in cognitive resources.

Qualitative studies can provide further insight into the beneficial psychological effects associated with use at specific times during the workday, as in the case of how perhaps reading online news with a cup of coffee when one arrives at the office is a boundary-crossing “ritual” to ease into the work role mindset before taking meetings or commencing job tasks (Ashforth et al., 2000). As an alternative, studies might instead focus on the end of the workday and consider whether use incentivizes and enhances the productivity of shift workers as an intrinsic, nonmonetary reward. For example, rather than pushing employees to exceed a quota and risk burnout or diminishing job attitudes, use might be permissible and encouraged within the last 15–30 minutes of a shift upon the completion of quality work. Harkening back to some of the earliest investigations that sought to determine the effectiveness of flexible scheduling policies on job performance (e.g., Orpen, 1981; Pierce & Newstrom, 1983; Ronen, 1981; Schein, Maurer, & Novak, 1977), we encourage quasi-experimental designs that isolate specific effects and sufficiently account for contextual influences (e.g., shiftwork versus salaried employees), including the identification of optimal use scenarios for practice.

Longer-term implications beyond a 24-hour period are also important to investigate. Repeated daily use might create psychosomatic symptoms (e.g., eyestrain or carpal tunnel syndrome; Balci & Aghazadeh, 2003), while coworkers' repeated use might diminish one's job satisfaction and breed turnover intentions. It is also likely that use behaviors—in tandem with the evolution of technology—prompt subsequent organizational actions, creating a feedback loop connecting this theme back to Theme 1 (new theory on organizational control and experienced institutional pressures) and Theme 2 (contextual antecedents regarding new policies, practices, and norms).

As an abstract temporal consideration, some studies identified age as a negative correlate of use,

suggesting younger employees are more likely to engage in use (Andreassen et al., 2014; Dora et al., 2019; Venkatesh et al., 2021; Vitak et al., 2011). Beyond integrating literature from the MIS and cyberpsychology fields that explores the connections between generational differences and technology use, future research should consider the evolution of work and nonwork role-related expectations in a post-pandemic era. Some still consider sending and receiving personal text messages while at work as a use behavior reflective of family-to-work behavioral role conflict—that is, behaviors that are inconsistent or incompatible with work-related role expectations (Clark, Early, Baltes, & Krenn, 2019; see also Greenhaus & Beutell, 1985). As studies continue to find evidence in support of the normativeness and acceptability of certain use behaviors at work (e.g., Askew et al., 2014; Chavan et al., 2021), future research—and the cyberslacking literature, in particular—will need to grapple with the degree to which some of these behaviors are indeed CWBs versus in-role behaviors that, despite potential downsides, are increasingly considered consistent with work role expectations.

CONCLUDING THOUGHTS

We remain mindful of Ollier-Malaterre et al.'s (2013: 664) admonition that “the technology itself may evolve ... but the underlying motives and archetypal [use] behaviors ... will likely endure.” Indeed, Lim's (2002) seminal work on cyberslacking is one study that—despite the technological landscape looking far different today compared to where it was two decades ago—has stood the test of time and influenced both research and practice across a variety of disciplines.

In this sense, we hope that our work will stand on the shoulder of giants, further advancing the field in significant ways over the long term. Broadly, we united three communities—CWB, descriptive, and recovery—to clearly distinguish what constitutes “use” (i.e., technology-mediated, non-task-related, and occurring during working hours) and what lies beyond these distinguishing characteristics. More precisely, we offered a road map for the continued study of specific use behaviors, including key considerations as to whether use is active/passive and intrapersonal/relational (i.e., the 2×2 taxonomy) and other use experience factors involving the length of use and whether use is experienced as positive or negative. Given our anticipation that these behaviors are likely to endure despite changes in the

technology landscape, we encourage future research to use our insights as a springboard for addressing everything from abstract conceptual considerations surrounding use as a broad phenomenon to empirical studies using rigorous and novel study methodologies addressing nuanced behaviors.

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Matthew B. Perrigino (matthew.perrigino@baruch.cuny.edu) is an assistant professor of management at Baruch College’s Zicklin School of Business. He received his doctorate in organizational behavior and human resource management from Purdue University. His research focuses on the intersection of work and personal life, addressing work–life flexibility policy effectiveness and how supervisors can support their subordinates’ lives outside of the workplace.

Roshni Raveendhran (raveendhranr@darden.virginia.edu) is an assistant professor of business administration at the University of Virginia’s Darden School of Business. Her research focuses on the understanding the future of work, particularly how technological advancements influence organizational actors and workplace practices, as well as how organizations can effectively leverage and integrate novel technologies for creating positive impact.

Ji Woon Ryu (ryujun@pdx.edu) is an assistant professor of management at the School of Business, Portland State University. She received her doctorate in organizational behavior from Indiana University. Her research focuses on diversity and well-being at work and how technological advancements reshape these issues.

