

Present-but-online

How Mobile Devices May Harm Purposeful Co-presence in Organizations (And What Can Be Done About It)

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Document Version

Accepted author manuscript

Published in:

European Management Journal

DOI:

[10.1016/j.emj.2020.07.006](https://doi.org/10.1016/j.emj.2020.07.006)

Publication date:

2021

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Citation for published version (APA):

Christensen, P. H., & Foss, N. J. (2021). Present-but-online: How Mobile Devices May Harm Purposeful Co-presence in Organizations (And What Can Be Done About It). *European Management Journal*, 39(1), 84-94. <https://doi.org/10.1016/j.emj.2020.07.006>

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Journal Pre-proof

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PII: S0263-2373(20)30115-8

DOI: <https://doi.org/10.1016/j.emj.2020.07.006>

Reference: EMJ 2025

To appear in: *European Management Journal*

Received Date: 3 June 2019

Revised Date: 9 June 2020

Accepted Date: 17 July 2020

Please cite this article as: Christensen P.H. & Foss N.J., Present-but-online: How mobile devices may harm purposeful co-presence in organizations (and what can be done about it), *European Management Journal* (2020), doi: <https://doi.org/10.1016/j.emj.2020.07.006>.

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**PRESENT-BUT-ONLINE: HOW MOBILE DEVICES MAY HARM PURPOSEFUL CO-
PRESENCE IN ORGANIZATIONS (AND WHAT CAN BE DONE ABOUT IT)**

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Declarations of interest: none

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Abstract

The introduction of mobile devices (e.g., smartphones and tablets), to the workplace has had many positive effects. While research also indicates that mobile devices may lead to the misallocation and depletion of attention, the negative effects, particularly on interactions in organizations, remain less well understood. We draw on micro-sociology to analyze the use of mobile devices in situations of purposeful co-presence, such as meetings and settings that require a joint effort to solve one or more problems. In these situations, the use of mobile devices is likely to de-energize actors and lead to behaviors that are contrary to the aims of establishing situations of purposeful co-presence. We identify ways in which organizations can avoid the negative consequences of mobile devices (while keeping the positive consequences), ranging from building norms regarding the use of such devices to restructuring work processes (e.g., making activities less interdependent and making less use of purposeful co-presence).

Keywords: Mobile devices, micro-sociology, purposeful co-presence, effervescence, work motivation.

1. Introduction

The introduction of mobile devices, such as laptops, smartphones, and tablets, to the workplace has had many positive effects on organizations and their members. These devices offer unique advantages with respect to flexibility and the use and exchange of information (Mazmanian, Orlikowski, & Yates, 2013) that may benefit both individuals and organizations in many ways (Mazmanian, 2013). The benefits of mobile devices in the workplace are increasingly well understood and have been documented in settings as diverse as higher education (de Freitas & Levene, 2003), factories (Zuehlke, 2010), and hospitals (Dimond, Bullock, Lovack, & Stacey, 2016). Mobile devices allow often immediate access to and transmission of relevant data and therefore facilitate knowledge sharing, communication, and learning. They may enable better monitoring of employee performance, further multitasking, and assist real-time coordination of work efforts.

However, mobile devices also have well-known problematic consequences for individuals, including blurred boundaries between work and leisure time, interference-induced behaviors (e.g., media multitasking; Gazzaley & Rosen, 2016), undermining of pro-social behaviors in the immediate, nondigital environment (Kushlev, Hunter, Proulx, Pressman, & Dunn, 2019; Misra, Cheng, Genevie, & Yan, 2016), and increased levels of occupational stress (Butts, Becker, & Boswell, 2015). In turn, these are likely to have negative organizational consequences. An example is “cyberslacking” (*aka* “cyberloafing”), that is, surfing the Internet at work (Andreassen, Torsheim, & Pallesen, 2014). A survey reports that employees spend as much as ten hours per week on cyberslacking activities (Lim & Chen, 2009), which is a substantial reduction of the potential amount of effort that is available to the employing organization. Additionally, the use of mobile devices can capture a disproportionate part of employee attention (Allen & Shoard, 2003; Allen & Wilson, 2005), lowering work effectiveness (Ward, Duke, Gneezy, & Bos, 2017).

Although substantial progress has been made in understanding the negative consequences of cyberslacking, we know less about how individuals' use of mobile devices *in the presence of others* (i.e., a group of colleagues) may (negatively) influence outcomes at the levels of groups and organizations.¹ Most studies examine the negative effects at the individual level (e.g., declining productivity) and infer organizational outcomes by aggregating these. However, simple aggregation does not work when there are substantial negative spill-over effects (e.g., when employees observe others' behaviors and take their use of mobile devices as a signal that cyber-slacking is permitted). Thus, the social (group, organizational) context of the use of mobile devices need to be included more fully in the understanding of the negative organizational consequences of the use of mobile devices. This is particularly pertinent because the increased use of mobile devices in the workplace runs in parallel with an increased use of teams and groups to carry out work activities.

We specifically focus on the use of mobile devices in situations of purposeful co-presence. Such situations are characterized by face-to-face interactions which ensure effective communication because they have greater bandwidth and, thereby, assist in relational coordination, deliberation, and planning (Daft & Lengel, 1984; Gittell & Douglass, 2012). Purposeful co-presence can have multiple beneficial consequences for an organization, such as increased trust (Sheppard & Sherman, 1998), improved knowledge sharing (Hansen, 2002), heightened feelings of membership and morality (Collins, 2004), affective liking (Casciaro & Lobo, 2015), group cohesiveness (Langfred, 2000), collective work motivation (Shamir, 1990), organizational transactive memory (Olabisi & Lewis, 2018; Walsh & Ungson, 1991), coworker familiarity (Hinds & Cramton, 2014), and compassion organizing (i.e., collectively responding in a coordinated way to others' need for help; Dutton, Worline, Frost, & Lilius, 2006).

¹ For a related discussion on the negative effects of social media, see Baccarella, Wagner, Kietzmann, and McCarthy (2018).

To analyze purposeful co-presence in an organizational context, we build on primarily interaction ritual theory (Collins, 2004), which seeks to understand what people do when interacting. We add insights from goal-framing theory (Lindenberg & Foss, 2011), which suggests that overarching goals (e.g., collective or hedonic goals) can capture the attention of organizational members, as well as insights from theory of how organizational members are energized (Owens, Baker, Sumpter, & Cameron, 2016; Quinn, Spreitzer, & Lam, 2012). Purposeful co-presence, whether in the form of formal meetings or informal interactions in the workplace, may succeed in focusing the attention of organizational members on organizational (rather than individual) goals, and may help bring about the energy and motivation needed to pursue collective goals. This involves subtle adaptive processes in which, for example, organizational members adjust their behaviors to the behaviors of others, rely on transactive memory to optimally engage with colleagues, or prod and help colleagues, all in an attempt to further collective goals (Lindenberg & Foss, 2011). The use of mobile devices in such contexts may be destructive of the workings of this subtle machinery.

We begin by introducing and problematizing (Alvesson & Sandberg, 2011) on-line behaviors in a work context (cf. also Baccarella et al., 2018). While much attention has been offered to the consequences of mobile devices in the workplace, their consequences for group functioning are less well understood. Our specific phenomenon of interest (Whetten, 1989) involves “present-but-online behaviors” (PBO behaviors). This construct captures the behaviors of organizational members who are purposefully co-present but nevertheless engage with mobile devices (e.g., texting, emailing, or browsing the Internet) in a way that is not required by the situation. We then consider the coordinating and motivating effects of purposeful co-presence, drawing on the theoretical lenses of interaction ritual theory (Collins, 2004), goal-framing theory (Lindenberg & Foss, 2011), and research on emotional energy in organizations (Owens et al., 2016; Quinn et al., 2012), which

jointly provide sufficient theoretical variety to provide a rich understanding of the consequences of PBO behaviors for group and organizational functioning (Okhuysen & Bonardi, 2011). In other words, these perspectives allow us to identify a number of ways in which PBO behaviors harms purposeful co-present interactions and have unwanted organization-level consequences. We theorize and derive propositions relating to how PBO behaviors negatively impact the beneficial consequences of organizational situations of purposeful co-presence and what organizations can do to reduce these negative consequences of PBO behaviors.

2. Present-but-online behaviors

2.1. The impact of mobile devices on flexibility and role and work domain boundaries

In the last few decades, the introduction and increasing use of mobile devices in organizations has had important implications for interactions among organizational members. At the most fundamental level, there has been a shift from the one-on-one computer-individual relationship that dominated until the mid-1990s to mobile devices that offer direct access to virtual networks (Turkle, 2011, 2015). This change has moved much human-to-human interaction online, a phenomenon that is manifest within as well as outside the workplace. Mobile devices have caused dramatic changes in the nature of work with respect to the level of autonomy and flexibility enjoyed by employees (Dumas & Sanchez-Birks, 2015) and the boundaries between various work domains as well as between work and non-work activities. Thus, much research argues that mobile devices break down established role boundaries or make them more permeable (e.g., Barley, Meyerson & Grodal, 2011; Mazmanian, 2013; Stanko & Beckman, 2015; Trefalt, 2013).

Roles and identities are characterized by specific attitudes and behavior patterns, and they are designed to fit the rules and expectations of each distinct domain. Individuals make role transitions (e.g., from being at work to being at home) when they change domains in order to adapt to expectations in the new domain and to avoid behavioral discrepancies (Reyt & Wiesenfeld, 2015).

When roles are segmented, an individual's tasks are more distinct and separate. Conversely, when roles are integrated, the various tasks tend to overlap or be combined.

Mobile devices are key enablers of role integration. Thus, laptops, smartphones, and tablets broaden the range of work-related as well as non-work-related tasks (e.g., posting on Facebook, checking LinkedIn, texting, personal banking) that can be performed anytime and anywhere (Reyt & Wiesenfeld, 2015). Permeable boundaries between roles and work domains allow organizational members situated in one work domain to (simultaneously) be involved in another domain, while flexibility allows organizational members to quickly and easily change from one work domain to another. For example, a manager may text employees while in the middle of a meeting with other managers. As a result, decisions can be made more quickly, and slack time can be reduced. In addition, flexible boundaries mean that knowledge workers can work where and when they wish, and there is evidence that knowledge workers experience greater flexibility when they use mobile devices (Mazmanian et al., 2013). This, in turn, may increase their sense of competence and being in control, which increases work motivation (Gagnè & Deci, 2005).

Research also documents several disadvantages of flexibility and permeable boundaries. With 83% of employees using work computers for personal purposes (Stanko & Beckman, 2015), that is, moving to a non-work domain while at work, many organizations struggle to keep employees focused on their focal tasks (Leroy, 2009; Reyt & Wiesenfeld, 2015). As mobile devices allow employees to communicate more frequently and flexibly, they also give rise to more frequent and irregular interruptions (Stanko & Beckman, 2015). When role boundaries become more permeable, individuals can more easily move between roles. However, this increases the likelihood of attention depletion, confusion, interruptions, competing demands, and signals that may disrupt subtle cognitive and motivational processes that support coordination in the workplace. All this is by now

relatively well understood in the research literature. What is less well understood is the impact of mobile devices on face-to-face interactions in organizations, including organized meeting activity.

2.2. Purposeful co-presence and present-but-online behaviors

Much organizational coordination happens through face-to-face interactions, which range from chance encounters among colleagues over informal meetings around the coffee machine, *ad hoc* meetings to deal with non-routine problems and regular meetings that are part of the organizational routines and which deal with similar or even identical items in each meeting. Face-to-face meetings with a purpose are examples of what Goffman (1961) calls “focused gatherings” characterized by “purposeful co-presence.” Focused gatherings have unique properties, such as the potential to generate spontaneous co-involvement in which each of the gathered individuals becomes caught up in the gathering, carried away by it, and engrossed in it (Goffman, 1961). Such gatherings often fulfill important organizational purposes that cannot be met to the same extent by other means of communication. In particular, generating ideas (Sutton & Hargadon, 1996) and solving problems characterized by high levels of ambiguity and uncertainty (Volkema & Niederman, 1995) are best organized as focused gatherings involving the physical co-location of relevant organizational members. In these situations, each organizational member’s effort is instrumental to realizing group goals (although members may not contribute equally). When organizational members use their mobile devices in situations where they are purposefully co-located with and can visually observe each other, they manifest *PBO behaviors*.

Such behaviors may be entirely unproblematic, and even beneficial, as when participants respond to mail requests from colleagues in breaks in a formal meeting, when being online is an explicit part of the purposeful gathering (e.g., the participants are engaged in a collective online information search, or they examine and discuss various online documents, sites, pages, etc.), or when an online presence helps provide useful inputs (e.g., meeting participants may make a better

case for their arguments when they can access relevant online information). In these cases, PBO behaviors may all contribute to the collective aim of the purposeful gathering.

However, when PBO behaviors involves switching from tasks that are specific and important to the focused gathering (listening, offering one's opinion, voting, etc.) to being online, or trying to handle individual tasks simultaneously, problems may arise, most obviously because tasks compete for the attention of individuals (O'Leary, Mortensen, & Wooley, 2011). Multitasking research typically focuses on how switching between tasks may challenge the individual's cognitive capacity (i.e., an individual level of analysis). In contrast, the focus on PBO behaviors here is instead at the group level, namely, how individuals' lack of attention may harm the functioning of the group. Moreover, and related to this point, while multitasking focuses on isolated individual activities (i.e., an individual being simultaneously engaged in multiple tasks), PBO behaviors per definition manifest in the presence of others. To better understand the consequences of PBO behaviors, a closer look at face-to-face interaction is required.

3. The role of face-to-face interaction in organizations

3.1. Face-to-face interaction

An important part of organizational life is face-to-face interactions among organizational members. Much research focuses on the antecedents, processes, and outcomes of such interactions. Thus, with respect to outcomes research has shown that proximity produces more and richer communication (Allen & Fustfeld, 1975), an increase in the number of strong ties (Reagans, 2011), better collaboration (Hua, Loftness, Heerwagen, & Powell, 2011), more spontaneous face-to-face encounters (Kabo, Hwang, Levenstein, & Owen-Smith, 2015; Waber, Magnolfi, & Lindsay, 2014), and increased knowledge sharing (Tortoriello, Reagans, & McEvily, 2012). Face-to-face interaction has traditionally required close proximity, as brought about by classrooms, dormitories, seating arrangements, hallways, and collocated workspaces (Reagans, 2011), although increasingly

Internet-based modes of communication allows for face-to-face interaction in the absence of close proximity.

Face-to-face encounters of different kinds are an overarching mode of sociality in virtually all organizations. Such encounters offer unique advantages that are hard or even impossible to emulate through the use of email, telephone, or other communication media that do not allow for the kind of purposeful co-presence that face-to-face encounters enable. Face-to-face encounters may assist in the coordination of tasks and increase the motivation for engaging in such tasks in ways that are difficult to replicate by other means.

3.2. Coordination and motivation advantages of face-to-face interactions

Face-to-face encounters improve communication and relational coordination because of the higher richness of these social interactions (Daft & Lengel, 1984; Gittel & Douglass, 2012). Tacit knowledge can more easily be communicated through face-to-face interactions, which also allows for the quick communication of relatively subtle clues (i.e., body language) that may be entirely lost in communication that takes place without such interaction (Lee & Wagner, 2002). Face-to-face interactions enhance the coordination of organizational actions because they offer a rich informational basis for taking those actions that dovetail with those of others in a quick, adaptive manner (Foss, 2001; Sebanz, Bekkering, & Knoblich, 2006; Weick & Sutcliffe, 2006). Part of this informational basis reflects the fact that face-to-face encounters help create “common-knowledge” conditions (Foss, 2001). In other words, each participant in the face-to-face encounter knows that certain issues have been discussed, certain conclusions have perhaps been reached, *and* the other participants also know this. Such common-knowledge conditions are important for the coordination of actions and intentions but may be hard to create in situations that do not involve face-to-face interactions, such as email-based communication (Chwe, 2001).

Face-to-face interactions enhance not only coordination, but also individual and group motivation (Baumeister & Leary, 1995; Wageman, 1995). Evolutionary anthropology suggests that humans are hardwired by evolution for recognizing joint endeavors, seeing ourselves as part of such endeavors and being motivated to choose our efforts and actions such that they fit the goals of the collective (typically a smaller group) (e.g., Dunbar, 2003; Tomasello, Carpenter, Call, Behne, & Moll, 2005). Such collective motivation makes us share information and cognitions about the relevant tasks, interdependencies, timing, and possible obstacles to smooth coordination (Lindenberg & Foss, 2011). Cognitions and motivations that are directed toward the collective (Shamir, 1990) are more easily created and sustained through face-to-face interaction (Hinds & Cramton, 2014).

3.3. Coordinating interdependencies

To be sure, face-to-face interactions are not best used to coordinate all organizational activities and interdependencies. Productive efforts involving pooled (i.e., activities are relatively independent) or sequential interdependencies (i.e., activities have to be carried out in a predetermined sequence) (Thompson, 1967) provide few reasons for bringing organizational members together in face-to-face interactions. Such interactions can be costly (e.g., organizational members may not engage in their primary productive activity when they participate in meetings). Moreover, when work tasks are simple and interdependencies can be governed by well-understood interface standards (Baldwin & Clark, 2000), rules and routines rather than communication through face-to-face interaction may be the superior way to coordinate activities. However, even in these cases, organizational members may be brought together (e.g., in open space offices) for motivational purposes. Individuals' needs for relatedness (Deci & Ryan, 2000), and to form and maintain a minimum number of interpersonal relationships (Baumeister & Leary, 1995) are important drivers of face-to-face interactions. In addition, joint gatherings can be instrumental for

energizing people (Quinn et al., 2012), and for building collective work motivation (Shamir, 1991) and joint production motivation (Lindenberg & Foss, 2001), even when task interdependencies are weak. Even in a context of a high level of work motivation, employees want some kind of assurance that other employees are doing their part and are similarly motivated. Face-to-face encounters, such as company gatherings, can create the informational conditions that allow employees to infer that other employees have a high level of work motivation.

4. PBO behaviors and face-to-face interaction

Having clarified the importance of purposeful co-presence and face-to-face interactions to organizations, in the following we build theory based on (primarily) micro-sociological interaction ritual theory concerning how PBO behaviors may negatively impact the positive (group and organizational level) consequences of purposeful co-presence. We summarize our reasoning in testable propositions. Our research model is depicted in Figure 1.

The logic of the model is the following. First, as we have already explained certain coordination and cooperation needs of organizations can best be addressed by bodily co-presence. In the following we further explore this in terms of the effects of co-presence (and its accompanying phenomena, such as a mutual focus of attention) on collective effervescence and how this produces beneficial outcomes at the organizational (and group) level. Second, these links may be negatively influenced (“moderated”) by PBO behaviors (propositions 1a-d, and 2a,b). Third, when organizational coordination and cooperation are harmed by PBO behaviors organizations may use formal and informal means to regulate the incidence of PBO behaviors in more desirable directions (P3a,b).

----- *Insert Figure 1 here* -----

4.1. Interaction ritual theory

To understand how organizational members engaged in face-to-face, purposeful co-present interactions maintain and develop a mutual focus of attention, we must examine the micro-processes of group interaction (Metiu & Rothbard, 2013; Weick & Sutcliffe, 2006). For example, physical co-location does not automatically produce relational fondness or the caring relations that are built on high-quality connections characterized by positive regard, feelings of inclusion, and a sense of being important to others (Gittell & Douglass, 2012, p. 710). Therefore, we need a more fine-grained understanding of how interactions shape social relations.

A fruitful way to build theory on how mobile devices impact the micro-processes of group interaction is from micro-sociological interaction ritual theory (Collins, 2004). The basic unit of analysis in this perspective is “the here-and-now of face-to-face interaction (which) is the scene of action and the site of social actors” (Collins, 2004, p. 3). Interaction ritual theory identifies the antecedents and outcomes of interactions, making the key point that group interaction may successfully build up “a feeling of being brought out of oneself into some larger and more powerful” (Collins, 2010, p. 47). This feeling has been referred to as “collective effervescence”: It is an emotive state that “pumps up” individuals with emotional energy such that they manifest an enthusiasm in being part of ongoing interactions. We take collective effervescence to be the main direct outcome of group interaction that can be negatively influenced by PBO behaviors.

Collective effervescence is related to the notion of relational energy, that is, “a heightened level of psychological resourcefulness generated from interpersonal interactions that enhances one’s capacity to do work” (Owens *et al.*, 2016, p. 37). Such energy is an outcome of an interaction, typically a collective effort oriented toward a common purpose. When individuals get caught up in the rhythm and mood of the interaction (Collins, 2004), they feel enthusiasm and strength.

Subsequently, these feelings manifest themselves in behaviors benefitting group goals.

Furthermore, the positive emotions experienced during the interactions make the individual want to

continue engaging with the group members involved in the focal interaction. While interaction ritual theory typically focuses on how social environments and contexts, such as sports competitions, may prompt relational energy, we argue that organizational settings may also have rituals that hold similar potential for mobilizing relational energy.

A ritual can be defined as a “mechanism of mutually focused emotion and attention producing a momentarily shared reality, which thereby generates solidarity and symbols of group membership” (Collins, 2004, p. 7). Rituals create and affirm identity, and they influence cognitions as well as motivations (Chwe, 2001). They are highly instrumental for communicating cognitions and motivations that involve adopting (if only temporarily, e.g., in a battle) the goals of a collective entity such as an organization. In particular, a ritual can support collective work motivation (Shamir, 1990) because it helps to enable the “mutually focused” cognition and motivation (Lindenberg & Foss, 2011) that is a precondition for such motivation.

4.2. Enablers of collective effervescence and PBO behaviors

Interaction ritual theory points to four key factors that may lead to collective effervescence and thus a collective motivation to pursue joint goals, namely, in Collins’ (2004) terminology, bodily co-presence, barriers to outsiders, mutual focus of attention, and shared emotion.

Bodily co-presence. Direct interactions between organizational members serve to provide them with the information they need to perform their tasks in concert with others. Face-to-face interactions are likely to be pivotal for work tasks in dynamic environments dominated by high levels of uncertainty and reciprocal interdependence between work tasks (Puranam, Alexy, & Reitzig, 2014). Close proximity can establish rich communication channels that are not available when individuals are distant. Bodily co-presence allows individuals to quickly adjust to the behaviors of co-workers, to develop mutual expectations and a shared understanding, and to build loyalty (Trefalt, 2013). As a rich media environment, bodily co-presence makes it easier for

individuals to monitor each other's signals, get into a shared rhythm, and develop a common focus of attention. It also helps fulfill individuals' need for belonging (Baumeister & Leary, 1995). A sense of belonging is exactly what "being present" is about: "without bodily presence, it is hard to convey participation in the group and to confirm one's identity as member of the group" (Collins, 2004, p. 54).

What, then, are the mechanisms that render bodily co-presence, such as face-to-face interactions, superior to a situation that lacks bodily co-presence? Social cues—such as eye contact, head nods, vocal tones, facial expressions, and body language—help interacting individuals signal intentions, interests, and goals (Fichten, Tagalakakis, Judd, Wright, & Amsel, 1992, p. 752; Lee & Wagner, 2002). Physical spaces, such as offices and meeting rooms that define arenas of social interactions, also play a role, not just because they establish boundaries around physical proximity, but also because they are typically associated with distinct behavioral norms and mental schemas that influence organizational members' behaviors and mutual expectations (Hinds & Bailey, 2003). While such norms and schemas reduce the need to transmit and interpret cues, a function of a social interaction is to reinforce norms and scripts in physical spaces by providing critical information about how one should behave in social interactions. When individuals follow these norms and scripts, the effect is to increase respect and fondness in relationships (Ollier-Malaterre, Rothbard, & Berg, 2013).

Given the centrality of cues in the workplace, a reduction in cues creates disruptions in the flow of communication (Sroull & Kiesler, 1986). In addition, when opportunities to monitor discussions and to convey emotions or attitudes are restricted, the intensity or magnitude of interpersonal affect is diminished (Casciaro & Lobo, 2015; Strauss & McGrath, 1994), which then diminishes respect and fondness.

In sum, an important factor in producing collective effervescence is bodily co-presence. This allows for immediate feedback on cues, such as a nod or a lifted eyebrow, and assists in coordinating actions and activities. Similarly, bodily co-presence can fulfill the need to belong if the individual respectfully acknowledges and engages other group members (Collins, 2004). However, the influence of bodily co-presence on collective effervescence is reduced when individuals engage in PBO behaviors and, consequently, pays less attention to the purposeful gathering. PBO behaviors reduce the number of cues that signal the status of a purposeful gathering as an important context for accomplishing coordination and cooperation tasks (Lindenberg & Foss, 2011). For example, when individuals engage in PBO behaviors during co-present meetings, they become less capable of paying attention to social cues such as eye contact and head nods that are instrumental in furthering group coordination and cooperation.

This reasoning motivates our first proposition:

Proposition 1a: *By reducing the number of cues that are successfully transmitted in situations of purposeful co-presence, PBO behaviors negatively moderate the relationship between co-presence and collective effervescence.*

Barriers to outsiders. Organizations usually physically collocate groups and functions. Similarly, meeting rooms, cantinas, and coffee rooms have physical barriers that make it clear that a particular activity is supposed to take place within those boundaries (Stea, Foss, & Christensen, 2015). However, boundaries are not necessarily established by the edges of rooms, cubicles, or hallways, but can also be set up by group members engaging around a task-related artifact, such as a whiteboard (Metiu & Rothbard, 2013).

Barriers are important for enabling mutual attention and shared emotions (Collins, 2004; Stea *et al.*, 2015). They make it clear who belongs and who do not, and they protect interacting participants from outsiders whose interruptions could weaken the interactions among insiders. The task-related artifact or the physical enclosure functions as a demarcation mechanism, such that

individuals will only cross the boundaries when they are invited to or believe they are able to contribute to the focal interactions. Barriers to outsiders allow participants to have a sense of who is taking part and who is excluded, and thus make it clear to whom they should pay attention. Thus, task-irrelevant others will maintain a respectful distance to the interaction (Metiu & Rothbard, 2013). In addition, barriers create the perception of belonging to a collective (Ashforth & Mael, 1989; Baumeister & Leary, 1995; Deci & Ryan, 2000). Within that particular group, this perception can increase collaborative behavior and produce norms reflecting a shared belief that “supporting, giving, and contributing to other members of the work unit are appropriate, acceptable, and encouraged behaviors” (Grant & Patil, 2012, p. 550). In other words, barriers are often key to forming ingroup/outgroup distinctions and the respective identities.

Mobile devices challenge the boundaries of work in general (Stanko & Beckman, 2015) and, in particular, the barriers to outsiders that arise during purposeful interactions. Texting, emailing, or surfing the Internet during purposeful gatherings remove boundaries to outsiders. This allows task-irrelevant others to digitally intrude on interactions, thereby potentially reducing the attention each individual insider can pay to the ongoing interactions and, likewise, blurring insiders’ perception of belonging to the group that is purposefully co-located. This is because PBO behaviors reduce the perceived barriers formed in situations of purposeful co-presence:

Proposition 1b: *By making the perceived barriers of co-presence more permeable, PBO behaviors negatively moderate the relationship between co-presence and collective effervescence.*

Mutual focus of attention. Collins (2004) contends that individuals are energized by mutually focused interactions, and that they will repeatedly seek them out in chains of interaction rituals. In his theorizing, “mutual focus of attention” means that people attend to the same activity and are aware of each other’s attention (Collins, 2004). However, establishing and maintaining a mutual focus of attention require bodily co-presence. For face-to-face interactions to successfully reduce

uncertainty, cues must be conveyed, received, and interpreted (Collins, 2004). Mobile devices absorb attention, leading to attention residue (Dane, 2018; Leroy, 2009). Following an interruption related to a mobile device, organizational members may turn attention to what is going on, but part of their attention is likely still focused on the salient task of being online (e.g., texting, answering emails). As a result, their psychological presence in the meeting is likely to be reduced. In fact, the mere presence of a mobile phone in dyadic meetings in which partners are trying to get to know each other has a detrimental effect on how the partners rate the quality of the interaction. This effect, which may happen outside of conscious awareness (Przybylski & Weinstein, 2013), may be explained by the fact that mobile phones divert individuals' engagement and attention away from the individuals with whom they are co-present. Moreover, the presence of the mobile device itself signals a potential disruption of the co-presence situation.

In sum, mutual attention is about directing attention toward those who are co-present and the focal task at hand. This means that everyone present knows that the others are aware that they are all aware of what is the focal task. PBO behaviors divert attention away from both co-present others and the focal work task:

Proposition 1c: *By diverting group members' mutual focus of attention, PBO behaviors negatively moderate the relationship between co-presence and collective effervescence.*

Shared emotion. Shared emotion refers to the common mood or underlying tone in the ongoing encounter. Work groups share emotions, such as collective engagement, enthusiasm, and laughter, during co-present interactions, thereby increasing individual levels of energy and confidence, which, in turn, enhance group engagement (Metiu & Rothbard, 2013). Interaction ritual theory highlights that shared emotions are common during, for example, sporting competitions in which a large part of the pleasure of attending consists of the crowd collectively building up a sense of anticipation. The crowd's shared enthusiasm is manifested over the flow of events (Collins, 2004, p. 58). Similarly, Metiu and Rothbard (2013) have found shared emotions in work groups,

where being part of or simply witnessing positive, helpful interactions in which people are focused on one another's needs affect not only one's subjective state of energy, triggering the positive emotion of elevation, but also one's own behavior.

The fostering of shared emotion assumes that individuals become caught up and carried away in the collective work task that is going on during the co-present interaction, in turn, making it unnecessary for the individual to dwell on anything else (Goffmann, 1961, p. 38). As such, a mutual focus of attention has been shown to be a strong enabler of shared emotions. In turn, shared emotions that allow an individual to walk away from a meeting with collective effervescence and increased levels of energy make it more likely that they will subsequently engage in co-present interactions requiring mutual focus of attention (Metiu & Rothbard, 2013).

As mobile devices allow for more role integration and make boundaries more permeable, they will negatively impact a group's ability to achieve and maintain a mutual focus of attention, which will dampen shared emotions. Accordingly, we hypothesize that:

Proposition 1d: *By reducing group members' shared emotions, PBO behaviors negatively moderate the relationship between co-presence and collective effervescence.*

5. The impact of PBO behaviors on organizational outcomes

Co-present interactions are pivotal for the coordination of actions and activities in organizations. Particularly when organizations need to deal with non-routine situations in the context of uncertainty and reciprocal interdependence of activities, and for building and sustaining cooperation among organizational members. However, the intrusion of mobile devices on co-present interactions may reduce the required coordination of activities and cooperation between members.

5.1. Outcomes of interaction rituals

Organizational encounters that are characterized by bodily co-presence, barriers to outsiders, mutual focus of attention, and shared mood, create individual emotional energy (Collins, 2004). In turn, collective effervescence can produce a strong pro-social orientation and lead to behaviors that

serve collective goals (Lindenberg & Foss, 2011). This pro-social orientation is characterized by feelings of membership and morality that positively influence the motivation to actively engage in collaborative activities (Kidwell & Bennett, 1993).

Feelings of membership. Feelings of membership or group solidarity are created when the interaction rituals focus everyone's attention on the same thing or activity and make each individual aware that they are doing so (Collins, 2004, p. 76-7), providing members with energy. As Quinn and Dutton (2005) explain, energy is an affective and reinforcing experience that individuals try to prolong or repeat. In organizations, such repetition may take place in contexts characterized by a high degree of task interdependency, which often necessitates frequent face-to-face interactions (Wageman, 1995). When interactions are repeated, emotional energy may increase as may the ability to intelligently orient oneself to the behaviors of other organizational members in terms of choosing behaviors that are coordinated with those of other members (Gittell & Douglass, 2012). Thus, interaction rituals can mobilize a drive to choose actions that serve the goals of the relevant group or collective (Lindenberg & Foss, 2011), and can make group members help other group members choose the right actions, offer advice, and prod group members who seem less motivated.

Feelings of morality. Feelings of morality refer to the sense of rightness in adhering to the group (Collins, 2004), which has also been characterized as cohesiveness. Close adherence to a group produces group norms that serve as guidelines for acceptable behavior that are informally agreed on by group members (Ehrhart & Naumann, 2004). Social identity theory predicts that employees who strongly identify with a social group are more prone to engage in organizational citizenship behaviors, such as helping behaviors (Grant & Patil, 2012; Korschun, 2015). Similarly, research on social loafing (e.g., individuals withholding work effort in a group setting) documents that when individuals perceive that they belong to a group, they experience a sense of "we-ness" and may work as hard, or even harder, collectively as they do individually (Karau & Williams,

1993). Furthermore, feelings of morality increase individuals' intrinsic involvement in collective work tasks because individuals are more likely to believe that their contributions are important for group performance (George, 1992). When such feelings are strong, "work unit members are likely to espouse and enact a crystallized, shared belief that supporting, giving, and contributing to other members of the work unit are appropriate, acceptable, and encouraged behaviors" (Grant & Patil, 2012, p. 550). In sum, feelings of morality in situations of bodily co-presence produce individual helping-behavior norms, which positively influence individuals' motivation to engage in collective work tasks (i.e., cooperation).

5.2. PBO behaviors and organizational coordination and cooperation

The micro-processes of interaction rituals are important for understanding how formal and informal interactions among organizational members influence ongoing work tasks. In particular, we argue that face-to-face interactions can yield coordination and motivation advantages that benefit work tasks when bodily co-presence, barriers to outsiders, mutual focus of attention, and shared mood are salient. Social interactions can energize or de-energize individuals: They energize individuals by calling forth positive emotions.

Two kinds of attachment are feelings of membership and feelings of morality, and they are important cognitive resources that support organizational coordination and motivation. However, the use of mobile devices during face-to-face encounters may create what Lawler (2001) calls "emotional downs" rather than "emotional highs". The former de-energizes individuals, so that neither feelings of membership nor feelings of morality are created—two feelings that support the coordination of interdependent activities and the creation of helping-behaviors. PBO behaviors undermine these feelings, because they reduce the perception of purposefully being co-present to address an important issue and reduce collective effervescence. Hence:

Proposition 2a: *PBO behaviors negatively moderate the positive relation between feelings of membership in situations of bodily co-presence and the coordination of reciprocally interdependent activities.*

Proposition 2b: *PBO behaviors negatively moderate the positive relation between feelings of morality in situations of bodily co-presence and the individual helping behavior norms that positively influence individuals' motivation to engage in collective work tasks.*

6. Counteracting the negative effects of PBO behaviors

In the following, we discuss two overarching ways in which organizations can reduce PBO behaviors: structural practices and normative efforts.

6.1. Structural practices

Cutting down on co-presence. An obvious way to reduce PBO behaviors is by reducing the occurrence of co-presence. This can be done in both temporal and spatial dimensions. With respect to the temporal dimension, if the total time spent on co-presence is reduced, there will also be a smaller incidence of harmful PBO-behaviors. Effectively, this will often amount to cutting down on meeting time, which will not only eliminate the PBO behaviors that would have emerged in the meeting time that has now been cut, but may also serve to make meetings more focused and less boring. To the extent that PBO behaviors are partly prompted by boredom, this will further reduce their incidence.

With respect to the spatial dimension, many organizations offer work-from-home arrangements in which employees (partly) work independently and occasionally engage in technologically mediated co-presence. One advantage of the lower richness of technologically mediated interactions may be that PBO behaviors (e.g., participating in a team meeting while also texting and checking social-media updates) are less visible than in physically present interactions and, therefore, less harmful. However, being physically co-present is still important for solving collective work tasks with high levels of reciprocal interdependence (Hinds & Cramton, 2014), hence there are inherent limits to the extent to which organizations can cut down on co-presence.

Group size. Co-presence can produce positive emotions (even though PBO behaviors may give rise to negative emotions) that may serve to focus attention, raise motivation for joint productive tasks, and mobilize the cognition necessary for carrying out such tasks (e.g., awareness of the division of labor in the group) (Lindenberg & Foss, 2011), leading to beneficial organizational outcomes (Casciaro & Lobo, 2015).

One strategy for improving individuals' efforts in collective settings is to change group size (Alchian & Demsetz, 1972). The use of mobile devices during co-present activities may be analyzed as a prisoner's dilemma game—from the individual's point of view, relational energy is good (e.g., it is associated with a “warm glow”) but using a mobile device is often more attractive for several reasons. First, it may reduce the perceived time famine by allowing the individual to finish other work tasks while, for instance, attending a meeting. Second, the use of mobile devices may fulfill more immediate needs by addressing, for example, the fear of missing out on social-media updates. These needs may be experienced as more immediate if the individual perceives the meeting as boring or uninteresting. As everyone faces these incentives, there is the risk that the use of mobile devices will lead to collectively inferior outcomes necessitating a negotiation of mobile use during social gatherings such as meetings (Stephens, 2018).

Research emphasizes that the smaller the group, the easier it is to handle such prisoners' dilemma situations (e.g., Alchian & Demsetz, 1972). Likewise, social psychology research suggests that small groups are more successful in producing higher average individual effort because it is easier to encourage effort and cooperation, and to police individual behaviors in small groups (Kidwell & Bennett, 1993). Along these lines, research shows that as the group size increases, employees believe that individual efforts become less visible (Shepperd, 1993). In sum, the negative effects of PBO behaviors can be reduced when co-presence is limited to smaller groups. Since there can be advantages to having a relatively large group (some tasks require a certain group

size, some group members are energized by being in a larger group, etc.), the gains from reducing the group size in terms of lower incidence of PBO behaviors need to be balanced against these costs.

Technology. While individuals often spontaneously seek out co-presence for fundamentally social reasons, the nature of the production activities (“technology”) employed by the organization influences the occurrence of organizational co-presence. The more this technology is characterized by reciprocal interdependence (Thomson, 1967), the greater the need for co-presence. While technology is partly industry and product dependent, the kind and degree of interdependence is to some extent a choice variable. Thus, more or less reciprocally interdependent technologies can be chosen to produce the same or similar products or services. There may be a cost of doing so (e.g., because of less effective communication), but this cost needs to be compared to the costs of PBO behaviors. If technologies are adopted that involve less reciprocal interdependence, fewer coordination needs have to be addressed through face-to-face interactions. Moreover, groups may become smaller. Both of these factors reduce the occurrence of purposeful co-presence.

Formalization. In organizations, purposeful co-presence brings about collective work motivation and assists in the coordination of interdependent activities. As purposeful co-presence serves this double role, and few other organizational features can serve as substitute for it. However, formalization can partly serve as a substitute for the coordination aspect of purposeful co-presence, especially if the technology and activities carried out in the organization do not involve a high level of reciprocal interdependence. Therefore, the use of formalization may be relevant in a situation in which management has decided to reduce the occurrence of purposeful co-presence because of rampant and harmful PBO behaviors. This means, that instead of handling coordination needs face-to-face, they are handled in part through rules, standard operating procedures, and other regulatory elements that allow organizational members to make decisions alone and without being

purposefully co-present with other organizational members. However, for organizations in highly dynamic environments involved in activities with a high degree of reciprocal interdependence, increasing the level of formalization is unlikely to be a feasible response to problems stemming from PBO behaviors.

Status distribution. A final structural response to the harming effects of PBO behaviors is to tweak the perceived status distribution in the organization. Essentially, purposeful co-presence is sought by organizations because it may lead to collective endeavors in which individuals are both encouraged and believed to be equally willing to contribute. An individual's willingness to contribute may be negatively influenced by their fear that group members will not pay sufficient attention to or value the individual's contribution. Research shows that status differences can lead to such fears (Bunderson & Reagans, 2011).

Ridgeway (1982) uses the term "interaction disability" to describe situations in which members of a group who have lower status than (some) other group members struggle to influence group decisions. Situations with an uneven distribution of power appear to prompt different response patterns depending on individuals' status characteristics. Group members high on status develop an "approach" response pattern, which is characterized by positive emotions, attention to rewards, and uninhibited behavior, while group members low on status develop an "inhibit" pattern, which results in negative emotions, attention to threats, and inhibited behavior (Bunderson & Reagans, 2011). Low-status group members may fear that the attention they pay to collective tasks will be undermined by high-status group members, and therefore redirect their attention to mobile devices and engage in PBO behaviors. To mitigate the risks of PBO behaviors, status differences in co-present groups must be reduced, thereby increasing group members' perceived importance to the functioning of the group. This may be done by ensuring that members involved in social interactions (such as meetings) are those who are actually able to contribute to collective outcomes.

The ability to contribute affects the group's decision to accept the contribution and allows the contributor to increase his or her status and influence in the group (Ridgeway, 1982, p. 86).

The above reasoning motivates the following proposition:

Proposition 3a: *Organizations experiencing unwanted consequences of PBO behaviors can reduce these by adopting one or more of the following measures: a) reduce the occurrence of purposeful co-presence (e.g., fewer meetings); b) reduce group size; c) change technologies and activities, so that they are less characterized by reciprocal interdependence; d) engage in more formalization; and e) tweak the perceived status distribution so that it becomes more egalitarian.*

6.2. Normative efforts

While the above-mentioned mechanisms represent formal ways of counteracting the negative effects of PBO behaviors, there are also informal ways of influencing these behaviors. Although it may be more difficult to allocate and enforce attention through (informal) normative efforts, they are still a powerful form of social control (Grant & Patil, 2012).

Group-helping behaviors. PBO behaviors can be perceived of as reflecting self-interest.

When active participation is required in a co-present work situation but the individual refrains from contributing and, for instance, diverts his attention to a mobile device, he pursues his own interests. This may have detrimental effects on the collective outcome. Self-interested norms can be counteracted by establishing group-helping norms. Research has focused on two ways of challenging self-interested norms in order to develop group-helping behavior: behavior modeling (e.g., giving a colleague advice instead of using mobile devices) and speaking up about concerns over PBO behavior (Grant & Patil, 2012). Behavioral modeling tends to be the most effective way to change norms. Modeling can happen in different work situations and is, therefore, not limited to purposeful co-locations. The establishment of group-helping norms redirects individuals' attention to the group and emphasizes the importance of contributing to the group. Such norms make individuals' decisions regarding whether to engage in non-group activities (e.g., PBO behavior) or

group activities easier and eventually leads individuals to allocate their attention to the collective task.

Mutual respect. Research suggests that contributing to collective goals has social and material benefits for the contributor (Willer, 2009). In addition, Lindenberg and Foss (2011) argue that goals in social settings are often “contagious”. Thus, when some individuals pursue hedonic goals by engaging with their mobile devices, they signal to others that such behavior is acceptable. Conversely, when individuals who are purposefully co-present convey that they are motivated to contribute to the joint goal of the group, group members show greater respect (e.g., esteem) toward them. One way of showing concern is to pay attention and not use mobile devices. Interestingly, when group members express their respect for individuals who contribute at a high level, the latter start to view the group more positively. A group motivation then emerges in a way similar to the development of group-helping norms discussed above. For individuals to be able to make more contributions to the common good and earn the respect of group members, they must engage in behaviors that are beneficial to others. Such behaviors may be costly for the individual (Kitts, 2006). One such cost relates to not utilizing mobile devices during social interactions, and instead engaging in and contributing to the collective effort. At the group level, the heightened attention paid to collective efforts creates mutual respect, while at the focal individual’s level, it creates a sense of being important to others. This, in turn, creates universal norms of caring for certain others (Gittell & Douglass, 2012). Thus, mutual respect fosters attachment to a social unit, and suppression of self-interested norms and behaviors (e.g., utilizing mobile devices during face-to-face interactions).

Constructive deviance. An increasingly prevalent norm is that individuals can bring their mobile device(s) with them and use these regardless of what they are doing or where they are

(Alter, 2017; Stephens, 2018).² Organizations are no exception in this regard (Warren, 2003). While work groups often function better without the presence or use of mobile devices, to establish a setting in which mobile devices are absent, an organization must deviate from the increasingly prevailing norm that mobile devices can be present anywhere and everywhere. Such “constructive deviance” (Warren, 2003) entails a change in common behaviors. A basic strategy for changing behaviors is discussing the logic of using mobile devices during purposeful co-locations (Morrison, 2011). Individuals’ concerns about whether it is safe to voice their views in this regard may keep them from speaking up and constructively deviating from current behavioral norms. Nevertheless, as PBO behaviors can have detrimental effects on collective outcomes, organizations must offer opportunities to voice concerns about the interplay between mobile devices and social interactions. The above reasoning suggests the following proposition:

Proposition 3b: *Organizations experiencing performance problems stemming from PBO behaviors can reduce these by adopting one or more of the following measures: a) group-helping norms, b) mutual respect, and c) constructive deviance.*

7. Conclusion

7.1. Contribution to theory

Research suggests that as many as 40% of Americans suffer from Internet “addiction” (Alter, 2017), that is, a felt need to constantly check emails and social-media updates. As most modern jobs involve mobile devices and as most organizations allow employees to bring their own mobile devices to the workplace, such addiction poses challenges for organizations. Some of these are already well understood in research on the workplace challenges caused by individuals’ heavy and often undesirable use of mobile devices while at work (Mazmanian, 2013; Stanko & Beckman,

² Highly ritualized co-presence, often with a spiritual dimension, still constitutes an exception, for example, church services, funerals, ceremonies involving royals or other dignitaries, and even theater shows.

2015). This research emphasizes organizational security and individual productivity, which can be aggregated to organization-level consequences. In other words, it focuses on the (negative) direct effects of excessive use of mobile devices mainly at the level of individuals. In contrast, we have focused on how the mere presence or use of mobile devices may influence social relationships in a group in a way that might harm group outcomes. For small organizations, these group outcomes may translate directly into organizational outcomes, but even for larger organizations negative group outcomes may have negative consequences at the organizational level. The purpose of this article is to offer the concept of PBO behaviors as a key aspect of understanding the potentially harmful outcomes of mobile devices in face-to-face interactions in groups, and to build theory that includes antecedent and moderating conditions influencing PBO behaviors and therefore group outcomes.

Our starting point is in research that analyzes how face-to-face encounters help ensure effective communication and coordination because of their wider bandwidth and their ability to build connections among participants through the use of nonverbal cues (Gittell & Douglas, 2012). Based mainly on micro-sociological interaction ritual theory, we have argued that the benefits of purposeful co-presence require participants to pay significant, continuous attention to one another. Otherwise, social interactions do not yield the beneficial consequences in terms of the collective effervescence that supports important coordination and cooperation tasks, and the lack of attention may even produce negative emotions that deplete organizational resources, such as feelings of membership and morality (Fritz, Lam, & Spreitzer, 2011).

Thus, the PBO behavior construct serves to introduce mobile devices into the management research as a key artifact with potential negative implications for interactions in groups. Embedding the construct in relevant theory, notably interaction ritual theory, helps to understand why and how those negative implications manifest. Furthermore, the PBO behavior construct with its focus on

mobile devices contributes to the emerging literature on the role of artifacts in interaction ritual theory (see, e.g., Collins-Nelsen & Puddephatt, 2018). While this theory is extremely useful for pointing to and analyzing purposeful co-presence and its important implications for group interaction and behaviors, in the original versions of the theory (Collins, 1981, 2004) the artifactual dimension is somewhat under-played. More specifically, while artifacts do get a mention, they are seen as endogenous to group membership and not as moderating group interactions. In contrast, we have introduced artifacts in the form of mobile devices as an integral part of interaction in modern organizations and have examined their implications for group interaction.

Further, by introducing the construct of PBO behaviors into goal-framing theory, we have challenged the production of joint production motivation (Lindenberg & Foss, 2011). Specifically, we have elaborated how and why PBO behaviors risk reducing individual members' sense of belonging and contributing to a joint endeavor, in turn, harming individuals' commitment to common goals. Future research should delve into the role of mobile devices for goal-framing theory as well as theory of energy in organizations.

We have also explored how the presence and use of mobile devices risk developing, or even adding to, an organizationally energy crisis. Research has emphasized the importance of being able to refuel energy during working hours (Owens et al., 2016), and one key source for refueling is face-to-face interactions. We have theorized how face-to-face interactions differ in their ability to produce feelings of membership and feelings of morality, in turn, yielding relational energy and the willingness to commit to collective work effort. Specifically, by introducing the construct of PBO behaviors, we contribute to our understanding of how artifacts (i.e., digital devices) risk reducing the energy that individuals experience they can extract from working closely with colleagues.

7.2. Future research

Additional research is required to establish the boundary conditions of our argument. We have pointed to various moderating factors, such as task interdependencies. However, other factors may play a role. At the macro level, factors such as power distance may play a role. Thus, junior participants in a meeting may be less inclined to make use of mobile devices in a culture characterized by a high level of power distance as compared to one with a low level of such distance. Additionally, employee and organizational age may play a role. One might expect PBO behaviors to be more accepted and less harmful in young, upstart companies. Relatedly, younger employees who have been raised in a fundamentally digitalized world may be more tolerant of PBO behaviors than older employees, and such behaviors may be less detrimental to their motivation to engage in collective work tasks.

7.3. Conclusion

While mobile devices are valuable and important organizational resources that can increase job satisfaction (Reyt & Wiesenfeld, 2015), enhance productivity by enabling better coordination and cooperation outcomes, and improve social relationships (Ollier-Malaterre et al., 2013; Trefalt, 2013), their use comes with costs. One hitherto less examined cost is that they may influence social interactions in a counter-productive manner. We have identified a number of mechanisms that may harm purposeful co-presence in a group context, leading to organizational costs, and also devised ways in which organizations can control such costs.

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Figure 1: Research Model

