# Understanding constant connectivity to work: How and for whom is constant connectivity related to employee well-being?

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## ARTICLE INFO

## ABSTRACT

Over the past few decades, the widespread use of mobile work devices (MWDs: e.g., laptops and smartphones) has enabled constant connectivity to work. This study advances previous work on the effects of constant connectivity for employees by focusing on *how* and for *whom* constant connectivity might be related to employee well-being. Additionally, organizational-level antecedents of constant connectivity are investigated. This paper reports on two survey studies that a) operationalize constant connectivity and its organizational antecedents and b) investigate the relationship between constant connectivity and employee well-being. The findings demonstrate that constant connectivity is negatively related to employees' well-being due to the inability to disengage from work. Moreover, this negative association exists independently of employees' boundary preferences. The findings further suggest that perceived alignment between perceived functional, physical, and symbolic connectivity aspects of MWDs and occupational identity, susceptibility to social pressure, and the visibility of co-workers' communication practices all contribute to constant connectivity in the workplace.

Due to the use of mobile work devices (MWDs), employees can be constantly connected to their colleagues and clients (Perlow, 2012). Constant connectivity has been described as intrinsic to contemporary knowledge work (Wajcman & Rose, 2011), resulting in both work interruptions and task completion (Sonnentag, Reinecke, Mata, & Vorderer, 2018). Although availability and connectivity can both help and hinder employees in their work (Mazmanian, Orlikowski, & Yates, 2013), a growing body of literature indicates that constant connectivity can be detrimental to employee well-being (Ďuranová & Ohly, 2016; Schlachter, McDowall, Cropley, & Inceoglu, 2017).

Impaired employee well-being has consequences at both the individual and organizational levels. While employees might suffer from psychosocial and/or physical consequences, organizations may be confronted with increased absenteeism, higher turnover, and declines in performance (e.g., Danna & Griffin, 1999). Stress-related health costs are estimated to range from $125 to $190 billion dollars per year in the United States (Goh, Pfeffer, & Zenios, 2015), with Europe reporting similar figures (e.g., International Labour Organization, 2016). High demands at work and work-family conflict – both related to constant connectivity (e.g., Butts, Becker, & Boswell, 2015; Chesley, 2005) – were found to be among the strongest indicators of work-related health issues (Goh et al., 2015). Similar to work-life boundaries, which allow boundary spanning in both directions, constant connectivity may also refer to

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connectivity to work or other life domains. However, for the purpose of this study, in line with previous studies of connectivity (Wajcman & Rose, 2011), we are concerned with connectivity to work during non-work time rather than connectivity to other domains during work time.

Considering constant connectivity's association with employee well-being, it is important to examine the factors that influence constant connectivity among an organization's workforce. Yet, research about the antecedents of constant connectivity is still scarce (Ďuranová & Ohly, 2016) and has mainly focused on individual-level attributes, such as job involvement and boundary management preferences (Boswell & Olson-Buchanan, 2007; Boswell, Olson-Buchanan, Butts, & Becker, 2016; Olson-Buchanan & Boswell, 2006; Richardson & Benbunan-Fich, 2011). At the organizational level, one quantitative study associated constant connectivity with whether organizations distributed MWDs and with organizational norms regarding availability (Richardson & Benbunan-Fich, 2011). A few qualitative studies focused on the role of group dynamics in the development of constant connectivity (e.g., Matusik & Mickel, 2011; Mazmanian, 2013; Mazmanian et al., 2013). More specifically, Mazmanian (2013) stresses the importance of "understanding the social origins and potential social solutions to traps of connectivity" (p. 1247), referring to the organization's role in the development of constant connectivity. Mazmanian's (2013) ethnographic study identifies three key dimensions that steer connectivity patterns: first, perceived alignment between the perceived functional, physical, and symbolic connectivity aspects of an MWD (hereafter, MWD connectivity perception) and occupational identity; second, susceptibility to social pressure; and third, the visibility of the communication practices of co-workers and supervisors. The aim of the current study is to operationalize these dimensions and to understand their relationships with constant connectivity and subsequently with employee well-being.

This study contributes to research and practice about constant connectivity in the following three ways. First, it develops our understanding of possible organizational antecedents of constant connectivity, which we currently know little about (Ďuranová & Ohly, 2016). Because constant connectivity has been negatively associated with employee well-being, it is beneficial for both individuals and organizations to investigate the ways in which organizations can influence escalating communication practices. By taking a closer look at the organizational antecedents of constant connectivity (Mazmanian, 2013), we aim to discern organizational dimensions of constant connectivity that might provide starting points from which to intervene at the organizational level in order to reduce constant connectivity.

Second, this study contributes to previous research about the possible consequences of constant connectivity for employees. By focusing on *how* and for *whom* constant connectivity may be related to well-being, we answer the calls of several authors for a more in-depth investigation of the relationship between constant connectivity and well-being (e.g., Boswell & Olson-Buchanan, 2007; Ďuranová & Ohly, 2016). Because constant connectivity stimulates a continued preoccupation with work-related issues, psychological detachment is assumed to be the underlying mechanism in the relationship between constant connectivity and employee well-being. Psychological detachment from work refers to "switching off" from work mentally during off-job time (Sonnentag & Bayer, 2005).

By staying connected to work, work stressors remain mentally present, resulting in decreased well-being (e.g., Derks, van Mierlo, & Schmitz, 2014). Furthermore, the positive relationship between psychological detachment and employee well-being is assumed to be stronger for employees with a segmentation boundary management preference (compared to employees with an integration preference). Segmentation boundary management preference refers to a preference to keep aspects of different life domains (such as thoughts, concerns, and physical markers) separate from one another on a cognitive, physical, or behavioral level (Kreiner, 2006). Finally, this study makes a methodological contribution to the literature. Previous studies have mainly assessed constant connectivity by measuring the self-reported frequency, duration or intensity with which employees used their MWDs during off-work hours (Ďuranová & Ohly, 2016) – which has often been mentioned as a limitation of such studies (e.g., Boswell & Olson-Buchanan, 2007; Diaz, Chiaburu, Zimmerman, & Boswell, 2012; Richardson & Benbunan-Fich, 2011) – or, more recently, by applying an event perspective, assessing constant connectivity as specific time- and place-bound *happenings* after work-hours (Braukmann, Schmitt, Ďuranová, & Ohly, 2017). Yet, this paper is the first to develop and validate a five-item constant connectivity measurement scale that focuses on the core theoretical aspects of constant connectivity: availability and connectedness during non-work time, checking and answering messages during non-work time, and the control that MWDs provide, enabling employees to conduct work remotely (e.g., Perlow, 2012; Porter & Kakabadse, 2006; Wajcman & Rose, 2011).

## 1. Theoretical perspectives

### 1.1. Constant connectivity and employee well-being

The contemporary workplace is characterized by the use of a multiplicity of communication media. Workers typically now access their email, instant messages, telephone calls, and voice-over-Internet protocol (VoIP) through MWDs provided by the organization (Wajcman & Rose, 2011), and they do so during both work and non-work hours (Olson-Buchanan & Boswell, 2006). The influx of MWDs in the workplace has led to radical transformations of work. A key concern in this regard has been the extent to which these communication media facilitate an environment of constant connectivity (Kolb, Caza, & Collins, 2012; Mazmanian, 2013). Constant connectivity refers to employees' perpetual availability (Wajcman & Rose, 2011) and 24/7 connectedness to the organization (Porter & Kakabadse, 2006) through their use of work-related communication media. This use spans both work and non-work time (e.g., evenings, weekends).

Scholarship has emphasized how increased connectedness of employees through communication media places demands on employees' attention (e.g., intensification of work through increased interruptions; Perlow, 2012). Hence, constant connectivity practices are often related to the (perceived) obligation of responsiveness (Mazmanian et al., 2013; Perlow, 2012). On the one hand,

constant connectivity may offer greater control over when and where employees work (Chesley, 2005; Wajcman & Rose, 2011); on the other hand, employees are also expected to be available through various communication channels and to respond to a multitude of digital messages (Barley, Meyerson, & Grodal, 2011). These dynamics have been repeatedly related to employees' psychological evaluations of work, including employee well-being (e.g., Ter Hoeven, van Zoonen, & Fonner, 2016).

Contemporary workplaces are typically characterized by increased expectations regarding availability and responsiveness. Some refer to the constant connectivity perpetuated by MWDs as an "electronic leash" that limits employees' ability to psychologically disengage from work (discussed further below; Boswell & Olson-Buchanan, 2007; Derks et al., 2014). Yet, the ability to psychologically disengage from work is important, as a lack of psychological detachment from work implies a continued preoccupation with work-related issues, which can impede the recovery process and by extension employees' overall well-being (e.g., Derks et al., 2014; Sonnentag & Bayer, 2005).

Etzion, Eden, and Lapidot (1998) refer to detachment as a "sense of being away from the work situation" (p. 579). Sonnentag and Bayer (2005) expanded this concept to *psychological* detachment and emphasize the importance of both physical and psychological detachment from work. In other words, to "switch off" by not only "leaving the working place" but also "taking a break from thinking about work related issues" (pp. 393–395). Hence, "psychological detachment from work refers to a state of mind during non-work time characterized by the absence of job-related activities and thoughts" (Sonnentag, Kuttler, & Fritz, 2010, p. 356). Although detachment from work may intuitively seem undesirable from a managerial perspective and may seem unnecessary from an employee perspective, studies have repeatedly demonstrated that employees need time away from work for recovery to occur (Sonnentag, Binnewies, & Mojza, 2010; Sonnentag, 2012). Importantly, mental disengagement from work during leisure time does not imply a general detached attitude toward one's job (Sonnentag, 2012; Siltaloppi, Kinnunen, & Feldt, 2009). Employees who can detach from work during leisure time report higher levels of psychological well-being and experience lower levels of psychological strain than those who remain attached to work (Siltaloppi et al., 2009). The general idea is that psychological detachment during leisure time provides a much-needed temporary break from job demands, which in turn could improve engagement. When individuals are able to detach from work, work-related demands no longer drain resources. In fact, resources may be conserved, allowing workers to return to work in a fully recovered state the next morning and fit to cope with new work demands (Sonnentag et al., 2010). Indeed, research has widely confirmed the importance of psychological detachment for employees' well-being (Sonnentag et al., 2010; Sonnentag & Bayer, 2005).

In contrast, a lack of psychological detachment has been related to impaired physical and psychological well-being – the former induced through increased psychosomatic health complaints (Taris, Geurts, Schaufeli, Blonk, & Lagerveld, 2008) and the latter directly (Sonnentag & Fritz, 2007) and indirectly induced through increased stress and emotional exhaustion (Sonnentag et al., 2010). Hence, it becomes apparent that being constantly connected to work inherently excludes the possibility of detaching from work (Derks et al., 2014), leading to reduced employee well-being (e.g., Sonnentag & Bayer, 2005; Taris et al., 2008). Therefore, the following hypothesis is proposed:

**H1.** a: Constant connectivity is negatively related to employee well-being; b: this relationship is mediated by psychological detachment.

The use of MWDs has propelled constant connectivity in the workplace, leading to the blurring of boundaries between work and home (Boswell & Olson-Buchanan, 2007), which may in turn affect employee well-being (Sonnentag & Bayer, 2005). Boundary theory (Ashforth, Kreiner, & Fugate, 2000) helps to clarify the consequences of constant connectivity by providing a framework from which to understand how employees manage potential spill-over effects between life domains. Boundary theory posits that employees erect 'mental fences', commonly called 'boundaries,' to manage the segmentation and/or integration of their work- and home roles physically, psychologically, and behaviorally (Kreiner, 2006). Regardless of whether enacted boundaries differ among individuals (Kreiner, 2006), some psychological detachment is indispensable for one's well-being (Sonnentag & Bayer, 2005; Sonnentag & Fritz, 2007). However, employees who prefer to segment work and home domains may be more strongly impacted by the consequences of constant connectivity than those who prefer to integrate life domains, as the latter preference is more closely aligned with constant connectivity (e.g., Reyt & Wiesenfeld, 2015). Put differently, while constant connectivity through MWDs may equally prevent two employees from detaching from work, the consequences of lacking psychological detachment may be more intrusive for an employee with segmentation preferences than for an employee with integration preferences.

While some segmentation is needed for psychological detachment (Sonnentag & Fritz, 2007), research suggests that boundary management preferences (i.e., segmentation vs. integration) are not the most important aspect of such detachment. Rather, what matters most is whether people are able to manage their boundaries according to their preferences (Kreiner, Hollensbe, & Sheep, 2009). Kreiner (2006) demonstrated that alignment between boundary management possibilities and preferences was associated with less work-to-home conflict, decreased stress, and increased job satisfaction. Similarly, a quantitative diary demonstrated that work-related smartphone use after-hours is beneficial for integrators because it was related to less work-family conflict and better family role performance (Derks, Bakker, Peters, & van Wingerden, 2016). Hence, as psychological detachment is more likely to align with the boundary preferences of segmenters than of integrators, we assume that psychological detachment will more strongly affect employee well-being when segmentation preferences are stronger.

**H2.** The indirect negative relationship between constant connectivity and well-being, through psychological detachment, is moderated by segmentation preferences such that the relationship is stronger for segmenters than for integrators.

*1.2. Organizational-level antecedents of constant connectivity*

On an organizational level, various studies on the use of communication technologies have suggested that employees compare and share their experiences and expectations (e.g., status cues; Treem, 2013), which leads to assumptions and norms about what technology should do and how it should be used (e.g., Technological frames; Treem, Dailey, Pierce, & Leonardi, 2015). Organizational expectations and norms regarding availability have been associated with work-related technology use during non-work time (Fenner & Renn, 2010; Richardson & Benbunan-Fich, 2011). Relatedly, Wajcman and Rose (2011) argue that patterns of constant connectivity emanate from organizational culture and practices. Mazmanian (2013) has suggested that the degree of connectivity varies according to occupational group. For example, different occupational framings of MWDs and their actual use led to different uses of MWDs between two departments (legal and sales). Expectations regarding appropriate communication practices with MWDs led to either homogenous communication practices (leading to strict norms about being constantly connected) or heterogeneous communication practices (leading to enhanced flexibility and work effectiveness) in two departments. Mazmanian (2013) describes how these alternate trajectories of use emerged and discusses the key dimensions that helped account for their differences: alignment between occupational identity and connectivity perceptions of MWDs, susceptibility to social pressure, and the visibility of the communication practices of co-workers.

The first dimension concerns the alignment between the connectivity perceptions of MWDs, i.e., the perception of what an MWD provides the user in terms of functional, physical and symbolic aspects, and an employee's occupational identity, referring to self-perceptions regarding personal interests, abilities, goals and values related to work (Hirschi, 2012). While the employees in the legal department perceived the properties of the device as being useful to fulfilling their occupational identity, sales representatives' "sense of self [was] not aligned with cultural narratives suggesting what a device can do and whom it is for" (Mazmanian, 2013, p. 1244). Thus, the sales force used their MWDs in an experiential and individually supportive way, while alignment led to a homogeneous trajectory of use among the attorneys: Based on their understanding of the attributes of a notable lawyer (i.e., occupational identity), everyone expected perpetual accessibility and responsiveness from others and themselves. Because their MWD afforded precisely this accessibility and responsiveness, the lawyers used it accordingly (Mazmanian, 2013). In their study of constant connectivity and interruptions among knowledge workers, Wajcman and Rose (2011) report findings similar to those of Mazmanian (2013). First, Wajcman and Rose (2011) found that the material properties afforded by MWDs are essential for knowledge professionals. Second, they also found that the material properties of MWDs are entangled with employees' self-perceived work roles in regard to constant connectivity. Based on these studies, we propose the following hypothesis:

**H3.** Alignment between connectivity perceptions associated with the mobile work devices and one's occupational role is positively related to constant connectivity.

Mazmanian's (2013) second key dimension refers to people's susceptibility to social pressure: While the sales group was directly responsible for the revenue of the firm and thus felt secure in their positions, the lawyers worked in the background and felt that they did not contribute directly to the firm's revenue, and they even saw themselves as a "revenue drain" (Mazmanian, 2013, p. 1242). Their structural position "left them vulnerable to internal and external pressures", and they felt the need to justify their presence (p. 1242). Thus, over time, the in-house lawyers became increasingly available and responsive in order to be perceived as "on-top" (p. 1242). Salespeople, in turn, were aware of others' acknowledgement of their contribution and did not feel the obligation to be more responsive or perpetually available (Mazmanian, 2013).

Previous research also showed that extending availability is used as a way to demonstrate commitment and value to the organization (Murray & Rostis, 2007). Thus, constant connectivity is used to align one's assumed social image with how one would like to be seen, i.e., as a reliable and valued contributor (Perlow, 2012). Additionally, shared expectations and a perceived obligation regarding people's responsiveness and availability have been shown to be a widespread reason for people to stay constantly connected (e.g., Mazmanian et al., 2013). Compliance with such perceived expectations can be interpreted as being susceptible to social pressure, leading to the following hypothesis:

**H4.** Susceptibility to social pressure is positively related to constant connectivity.

The last key dimension concerns the visibility of others' communication practices when using an MWD. In the legal department, constant connectivity practices were visible, for example, through frequent copying (cc-ing) co-workers on email messages. People were able to see how others used their MWDs and assumed those practices to be appropriate. Over time, employees' perceptions of appropriate communication practices changed in the direction of increasing responsiveness and availability expectations, resulting in everyone being constantly connected to work (see also 'the circle of responsiveness'; Perlow, 2012, p. 7). In the sales department, where the employees had no knowledge of others' communication practices, the perceived norm was to use the device according to one's needs (Mazmanian, 2013).

In another study among knowledge workers, Mazmanian et al. (2013) found that observing how co-workers used an MWD changed collective expectations about appropriate communication practices and led to escalating engagement, ultimately resulting in norms of constant availability and responsiveness. Similarly, the relevance of supervisors as role models has been established, for example, for boundary management behavior (e.g., Koch & Binnewies, 2015): A survey among white-collar employees and their supervisors concluded that employees whose supervisor demonstrates work and home segmentation behavior – thus making his/her behavior visible – are more likely to segment work and home themselves. Additionally, a survey study among employees of a grocery store chain in the United States has shown that among other dimensions, supervisors' role modeling – referring to the actual demonstration of behavior on the job – shapes organizational norms and shared values regarding work-life balance in the organization
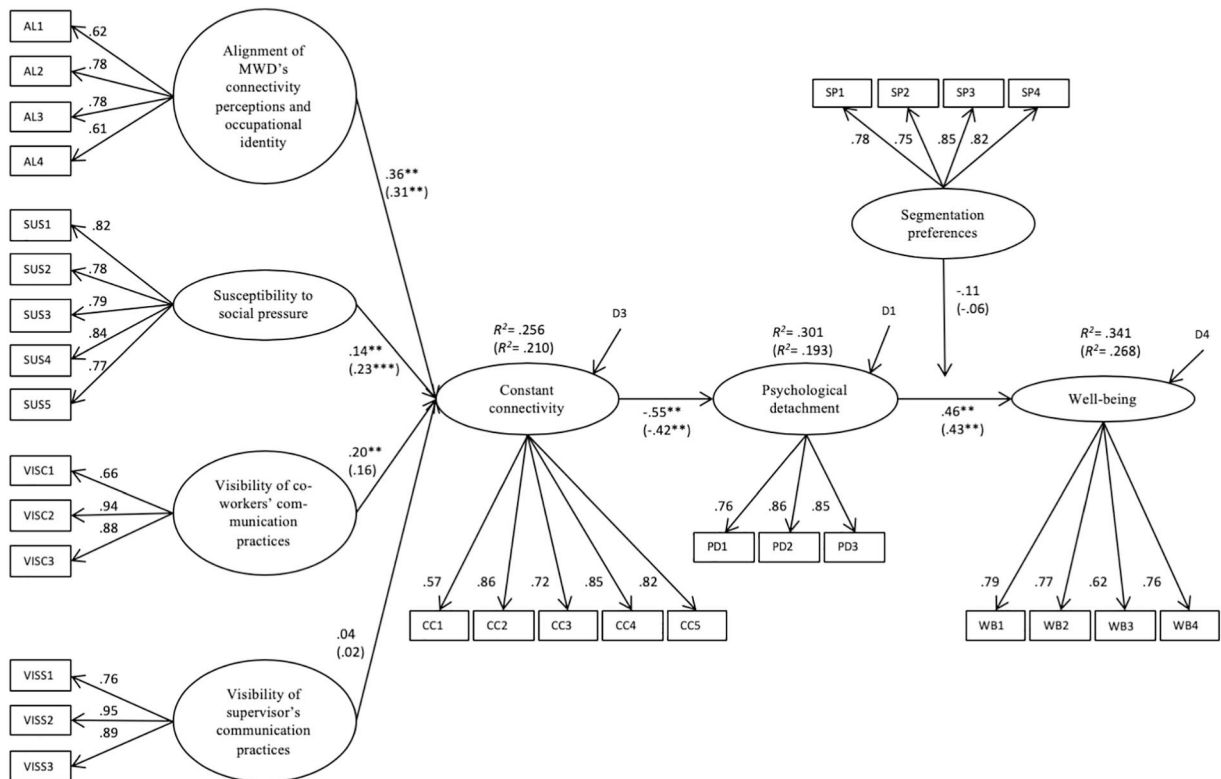
**Fig. 1.** Structural regression model.

(Hammer, Kossek, Yragui, Bodner, & Hanson, 2009). Therefore, the following is hypothesized:

**H5.** a: The visibility of co-workers' communication practices with mobile work devices is positively related to constant connectivity.
b: The visibility of supervisors' communication practices with mobile work devices is positively related to constant connectivity.

## 2. Research approach

The analysis of the introduced conceptual model and its related hypotheses will encompass three main phases. *Phase 1 – Operationalization*: To deepen our understanding of constant connectivity and its antecedents, operationalization and item generation for these constructs was initially grounded in the findings and conceptual definitions of current literature on constant connectivity (Rice et al., 2017). This deductive scale development approach was used (Hinkin, 1995) because constant connectivity and its organizational precursors have been outlined in detail in conceptual and qualitative work by Mazmanian (2013).

*Phase 2 – Validating the measurement model*: To measure constant connectivity and its antecedents based on the qualitative findings of Mazmanian (2013), several scales were developed for the purpose of this study or adapted to the context of this study. Therefore, several steps were employed to ensure their validity (Slavec & Drnovšek, 2012): First, the measurement model was estimated, reflecting the hypothesized factor structure of all scales using an independent sample ($n = 274$) obtained from our first research site at a large global organization in the automotive industry. Subsequently, the results of this analysis were validated using a confirmatory factor analysis based on a second sample ($n = 387$) collected at a large global organization in the technology industry. Model validity measures were examined to evaluate construct validity – i.e., convergent and discriminant validity.

*Phase 3 – Structural model and hypotheses testing*: Finally, in Phase 3, the second sample is used to test the criterion-related validity of the new scales by examining the conceptual model as depicted in Fig. 1 using structural equation modeling (SEM) in Amos. Model fit was assessed through incremental indices (the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI)) and absolute fit indices (the standardized version of the root mean squared residual (SRMR) and the root mean square of approximation (RMSEA)).

## 3. Methods

### 3.1. Sample and procedures

Data were gathered among employees of two global corporations, which, to ensure anonymity, we will indicate by the industry in which they operate: automotive (a firm specialized in engineering and mass forming in the automotive industry, employing 2551

employees in Liechtenstein) and technology (a firm that provides IT systems, solutions and consulting, employing approximately 3000 employees at their site in Switzerland). Within the two firms, all employees with knowledge-intensive job tasks and an MWD (i.e., laptop and/or smartphone) were invited to participate in the study. At the automotive firm, 637 were invited by an e-mail sent by the Head of Human Resources. And at the technology firm, all of the approximately 3000 employees were eligible to participate; they were invited to the study by an e-mail, which was sent by the Country General Manager.

The employees were given two weeks during November 2017 to participate in the study and were allowed to do so during work time. Ultimately, 274 employees at the automotive firm filled out the survey, resulting in a response rate of 43.0% and 387 employees at the technology firm, resulting in a response rate of 12.9%. Respondents from both companies were predominantly male (technology firm, 89.1%; automotive firm, 78.6%) with almost half of the respondents having obtained a university degree (technology firm employees, 50%; automotive firm employees, 44.4%). The average age was 39.74 $SD$ = 8.34 in the technology firm and 47.17 $SD$ = 9.08 in the automotive firm. They reported working 48.4 ($SD$ = 7.04 technology) and 45.4 ($SD$ = 8.89 automotive) hours per week, respectively. The average tenure was 8.63 years ($SD$ = 7.21) in the technology firm and 17.28 years ($SD$ = 8.57) in the automotive firm. These variables (also listed in Table 3) have been consecutively modeled as controls in the structural analysis. The magnitude and statistical significance of all coefficients remained equivalent after removing all controls. Hence, for reasons of parsimony, we report results of the analyses without controls.

### 3.2. Operationalization (Phase 1)

For the hypothesized model, we draw partly on available measures and partly on measures developed for this study. Employee well-being, psychological detachment and segmentation preferences are measured using scales adopted from previous studies, whereas the remaining scales were adapted from related constructs (i.e., susceptibility to social pressure, alignment between MWD connectivity perceptions and occupational identity) or constructed based on qualitative findings (i.e., constant connectivity and visibility of communication practices). Answer categories were anchored on five-point Likert-type scales.

#### 3.2.1. Existing scales

*Well-being* is measured through four items adopted from Topp, Østergaard, Søndergaard, and Bech (2015). The items tap the frequency with which employees felt, for instance, active or vigorous in the past two weeks. *Psychological detachment* was measured using three items of the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007). *Segmentation preferences* refer to the degree to which employees prefer to keep social and professional domains separated or integrated. This was measured using the four-item scale developed by Kreiner (2006).

#### 3.2.2. Developed measures

*MWD connectivity perception and occupational identity* examine whether people think that the properties of the MWD align with what they think is important in their job (i.e., occupational identity). A six-item scale was created to measure the motives for using mobile devices in the workplace (Peters & Ben Allouch, 2005) and the alignment of those motives with one's occupational identity (Mazmanian, 2013; Wajcman & Rose, 2011).

Because public self-consciousness refers to the likelihood that persons will conform to external pressure (Froming & Carver, 1981), *susceptibility to social pressure* is assessed by five items of Fenigstein, Scheier, and Buss' (1975) scale of public self-consciousness adapted to one's work situation (May, Gilson, & Harter, 2004). *Visibility of others' communication practices* was examined using two (i.e., co-workers and supervisors) scales based on Mazmanian (2013). These measures tap employees' sense of how others are engaging with technology. For these scales, we developed six items each.

Finally, *constant connectivity* was measured using a six-item scale that accounts for the core attributes of constant connectivity outlined by different scholars, such as perpetual availability (e.g., Wajcman & Rose, 2011), permanent connectedness to the organization (Porter & Kakabadse, 2006), the control of work beyond work hours (Perlow, 2012) and blurred boundaries through the use of the device for work purposes during non-work hours (e.g., Boswell & Olson-Buchanan, 2007). All the items in the final measurement model are reported in Table 1 with the corresponding factor loadings, error terms, and explained variances. Please see Table 2 for an overview of the measurement sources.

## 4. Results

### 4.1. Validating the measurement model (Phase 2)

The initial measurement demonstrated insufficient model fit: $\chi^2$ (751) = 1721.73; CFI = 0.85; TLI = 0.84; SRMR = 0.07 and RMSEA = 0.069 (CI: 0.065, 0.073). We accounted for the importance of parsimony in scale construction (Hinkin, 1995) by examining low factor loadings (< 0.60) and cross loadings to inform model re-specifications. Based on this analysis, the following items were consecutively excluded to improve model fit: two items of *alignment between MWD connectivity perception and occupational identity* were discarded due to low factor loadings; these items were "The fact that my company provides me with a mobile work device reflects my standing in the organization" ($\lambda$ 0.12) and "The presumed dedication for my job is enabled through my mobile work device" ($\lambda$ 0.55).

One item from the constant connectivity scale was removed due to low factor loadings: "Through the use of a mobile work device, my work and non-work hours are not clearly separated" ($\lambda$ 0.57). For the visibility scales, two items for the visibility of co-workers'

and the visibility of the supervisor's communication practices were discarded because of high cross-factor correlations: "My colleagues' (manager's) communication practices during work and non-work hours are visible to me"; and "I know how quickly my colleagues (manager) respond(s) to their (his/her) emails or similar work-related messages during work and non-work hours". In addition, one item for visibility of co-workers' and for visibility of the manager's communication practices was discarded because of low factor loadings: "My colleagues ($\lambda$ 0.30)/My manager ($\lambda$ 0.43) often copy (cc) me on e-mails." Finally, one item from the psychological detachment scale was removed because of high error correlations with other indicators within the same construct: "During non-work time, I don't think about work at all."

The retained measurement model demonstrated good model fit: $\chi^2_{Automotive}$ (406) = 721.203; CFI = 0.94; TLI = 0.93; SRMR = 0.06 and RMSEA = 0.053 (CI: 0.047, 0.060). The composite reliability of the constructs in the model range from 0.84 to 0.89, indicating satisfactory reliability. Additionally, the standardized factor loadings range between 0.64 and 0.94 (see Table 1). Construct validity was assessed by considering both convergent and discriminant validity. The average variance extracted ranged between 0.56 and 0.72, indicating a sufficient degree of convergent validity. Discriminant validity was assessed by establishing that the latent constructs share more variance with their observed indicators than with other latent variables. Table 3 demonstrates that the average variance extracted exceeds the maximum and average shared variance with other constructs, indicating satisfactory discriminant validity. Hence, the final measurement model adequately measures the latent variables in the model; there are no validity concerns.

Subsequently, the factor structure was replicated with an independent sample collected at our second research site, the technological organization. The measurement model demonstrated good model fit: $\chi^2_{technology}$ (406) = 777.636; CFI = 0.94; TLI = 0.94; SRMR = 0.05 and RMSEA = 0.049 (CI: 0.045, 0.054). Composite reliability scores ranged between 0.79 and 0.91, indicating satisfactory reliability. Factor loadings ranged between 0.58 and 94. The average variance extracted exceeds 0.50 for all constructs. Similarly, the average variance extracted exceeds the maximum average shared variance, indicating sufficient convergent and discriminant validity (see Table 3). The validity of the measures was confirmed in both samples, justifying further examination of the structural model.

*4.2. Structural model and hypotheses testing (Phase 3)*

The structural regression model (see Fig. 1) based on the data collected at the technology organization ($N$ = 387) demonstrated good model fit: $\chi^2$ (446) = 929.36; CFI = 0.94; TLI = 0.93; SRMR = 0.09 and RMSEA = 0.053 (CI: 0.048, 0.058). We replicated the structural model with the sample collected at the automotive company ($N$ = 274) and again observed good model fit: $\chi^2$ (446) = 895.37; CFI = 0.93; TLI = 0.93; SRMR = 0.09 and RMSEA = 0.061 (CI: 0.055, 0.067). For the purpose of hypothesis testing, we report the parameter estimates from the technology firm in the text and refer to Table 4 and Fig. 1 for the estimates of both samples.

Hypothesis 1a posits that constant connectivity is negatively related to employee well-being. The direct relationship between constant connectivity and well-being was not significant ($b^*$ = −0.092, BC 95% [−0.225; 0.051], $p$ = .204). Hypothesis 1b, then, assumed that the negative relationship would be transmitted through psychological detachment. The findings support this assumption, as the results demonstrate a significant indirect effect of constant connectivity on employee well-being through psychological detachment $b^*$ = −0.255, BC 95% [−0.337; −0.177], $p$ < .001. Specifically, constant connectivity reduces psychological detachment (detachment $b^*$ = −0.548, BC 95% [−0.639; −0.440], $p$ = .003), while psychological detachment is positively related to employee well-being ($b^*$ = 0.464, BC 95% [0.353; 0.718], $p$ = .003). Hence, hypothesis 1b is supported.

Hypothesis 2 reflects the assumption that this indirect effect is moderated by employees' boundary management preferences. Moderated mediation was examined by calculating the index of moderation-mediation (Hayes, 2015). The results indicate that the hypothesized moderated-mediation effect was not significant ($b^*$ = −0.061, BC 95% [−0.140; 0.019], $p$ = .128). Hence, hypothesis 2 was not supported. A closer inspection of the moderation effect shows that the interaction effect of psychological detachment and boundary preferences is not significant ($b^*$ = 0.112, BC 95% [−0.035; 0.250], $p$ = .134). These findings imply that psychological detachment is equally important for the well-being of those who prefer to segment and those who prefer to integrate work-life domains.

Hypotheses 3 through 5 address the key antecedents of constant connectivity as proposed by Mazmanian (2013). The findings indicate that alignment of MWD connectivity perception and occupational identity ($b^*$ = 0.361, BC 95% [0.254; 0.471], $p$ < .001) and susceptibility to social pressure both significantly contribute to constant connectivity ($b^*$ = 0.144, BC 95% [0.028; 0.260], $p$ = .010). These findings support hypotheses 3 and 4.

Finally, hypothesis 5 reflects the assumption that a) the visibility of co-workers' communication practices and b) the visibility of the supervisor's communication practices contribute to constant connectivity. The visibility of co-workers' communication practices has a significant and positive effect on constant connectivity ($b^*$ = 0.204, BC 95% [0.066; 0.323], $p$ = .003). This finding supports hypothesis 5a. The visibility of the supervisor's communication practices did not have a significant effect on constant connectivity ($b^*$ = 0.043, BC 95% [−0.071; 0.166], $p$ = .462). Hence, hypothesis 5b is not supported. Note, however, that the correlations in Table 3 suggest that the visibility of the co-workers' and supervisor's communication practices are both positively related to constant connectivity. This suggests that the visibility of the supervisor's communication practices is positively correlated with constant connectivity but that the visibility of co-workers' communication practices accounts for this variance in the structural analysis. When the effect of co-workers' visibility is constrained to zero, the visibility of the supervisor's communication practices is significant. In sum, the alignment of MWD connectivity perception and occupational identity, susceptibility to social pressure, and the visibility of co-workers' communication practices are significant triggers for constant connectivity, explaining 25.6% of the variance.

**Table 1**
Measurement model.

| Item | Automotive (N = 274) | | | | Technology (N = 387) | | | |
|---|---|---|---|---|---|---|---|---|
| | $R^2$ | St. factor loading[a] | Unst. factor loading[b] | Se | $R^2$ | St. factor loading[a] | Unst. factor loading[b] | Se |
| Constant connectivity | **0.61** | | | | **0.59** | | | |
| Through my mobile work device, I am always available for my colleagues and/or clients, also during non-work hours. | 0.51 | 0.711 | 1.000[b] | | 0.33 | 0.577 | 1.000[b] | |
| During non-work hours, I monitor my work through my mobile work device (e.g., checking e-mails or similar work-related messages, intranet etc.) | 0.74 | 0.861 | 1.181 | 0.09 | 0.73 | 0.853 | 1.570 | 0.13 |
| Through my mobile work device, I know what awaits me at work before I get there. | 0.41 | 0.638 | 0.786 | 0.08 | 0.51 | 0.746 | 1.142 | 0.10 |
| For me, it is common to check and answer emails or other work-related messages during non-work hours. | 0.73 | 0.855 | 1.278 | 0.10 | 0.73 | 0.854 | 1.603 | 0.13 |
| Through the use of my mobile work device, I stay connected to work during non-work hours. | 0.68 | 0.823 | 1.102 | 0.09 | 0.67 | 0.817 | 1.418 | 0.12 |
| Alignment between MWD connectivity perceptions and occupational identity | **0.60** | | | | **0.50** | | | |
| My mobile work device provides me with temporal and spatial independence that is relevant to my job. | 0.63 | 0.791 | 1.000[b] | | 0.39 | 0.620 | 1.000[b] | |
| My mobile work device provides me with access to work related e-mails or similar work-related messages wherever and whenever it is needed, which is important for me to do my job. | 0.80 | 0.897 | 1.127 | 0.08 | 0.60 | 0.774 | 1.365 | 0.12 |
| My mobile work device enables the necessary responsiveness to colleagues and/or clients. | 0.71 | 0.638 | 0.621 | 0.06 | 0.61 | 0.782 | 1.298 | 0.12 |
| I need a mobile work device to do my job appropriately. | 0.57 | 0.755 | 1.008 | 0.08 | 0.38 | 0.607 | 1.201 | 0.13 |
| Susceptibility to social pressure | **0.56** | | | | **0.64** | | | |
| I am concerned about what colleagues and/or clients think of my work. | 0.44 | 0.660 | 1.000[b] | | 0.66 | 0.814 | 1.000[b] | |
| I worry about my work making a good impression. | 0.54 | 0.794 | 1.102 | 0.09 | 0.62 | 0.785 | 0.971 | 0.06 |
| I worry about my work being judged by colleagues and/or clients. | 0.89 | 0.828 | 1.187 | 0.09 | 0.64 | 0.797 | 1.007 | 0.06 |
| I am afraid my shortcomings will be noticed by colleagues and/or clients | 0.63 | 0.737 | 0.954 | 0.10 | 0.69 | 0.833 | 1.043 | 0.06 |
| I worry about how colleagues and/or clients perceive my work. | 0.48 | 0.693 | 0.954 | 0.10 | 0.59 | 0.770 | 0.936 | 0.06 |
| Visibility of co-workers' communication practices | **0.71** | | | | **0.69** | | | |
| I know which of my colleagues engage with their mobile work device after work hours. | 0.44 | 0.660 | 1.000[b] | | 0.43 | 0.657 | 1.000[b] | |
| I know which of my colleagues check their e-mails or similar work-related messages during non-work hours. | 0.93 | 0.966 | 1.480 | 0.12 | 0.88 | 0.938 | 1.557 | 0.10 |
| I am aware of my colleagues' e-mail practices. | 0.75 | 0.866 | 1.196 | 0.10 | 0.77 | 0.876 | 1.420 | 0.10 |
| Visibility of supervisors' communication practices | **0.72** | | | | **0.76** | | | |
| I know whether my manager engages with his/her mobile work device after work hours. | 0.50 | 0.710 | 1.000[b] | | 0.58 | 0.761 | 1.000[b] | |
| I know whether my manager checks his/her e-mails or similar work-related messages during non-work hours. | 0.84 | 0.919 | 1.321 | 0.09 | 0.90 | 0.951 | 1.294 | 0.07 |
| I am aware of my manager's e-mail practices. | 0.82 | 0.905 | 1.255 | 0.09 | 0.80 | 0.896 | 1.238 | 0.07 |
| Well-being: During the past two weeks … | **0.58** | | | | **0.53** | | | |
| … I woke up feeling fresh and rested. | 0.70 | 0.838 | 1.000[b] | | 0.61 | 0.783 | 1.000[b] | |
| … I have felt active and vigorous. | 0.63 | 0.796 | 1.034 | 0.08 | 0.57 | 0.753 | 1.069 | 0.08 |
| … I have felt calm and relaxed. | 0.46 | 0.677 | 0.777 | 0.07 | 0.38 | 0.619 | 0.750 | 0.07 |
| … I have felt cheerful and was in a good mood. | 0.51 | 0.716 | 0.940 | 0.08 | 0.57 | 0.752 | 1.078 | 0.08 |
| Psychological detachment | **0.72** | | | | **0.68** | | | |
| During non-work time, I get a break from the demands of work. | 0.43 | 0.653 | 1.000[b] | | 0.58 | 0.762 | 1.000[b] | |
| During non-work time, I distance myself from work. | 0.89 | 0.943 | 1.480 | 0.12 | 0.73 | 0.856 | 1.112 | 0.07 |
| During non-work time, I forget about work. | 0.86 | 0.925 | 1.443 | 0.11 | 0.73 | 0.852 | 1.123 | 0.07 |
| Segmentation preferences | **0.63** | | | | **0.64** | | | |
| I like to be able to leave work behind when I go home. | 0.58 | 0.759 | 1.000[b] | | 0.71 | 0.783 | 1.000[b] | |
| I dont like work issues creeping into my home life. | 0.60 | 0.773 | 0.922 | 0.07 | 0.68 | 0.753 | 0.861 | 0.06 |
| I prefer to keep work life at work. | 0.72 | 0.845 | 1.011 | 0.07 | 0.56 | 0.619 | 0.971 | 0.06 |
| I don't like to have to think about work while I'm at home. | 0.65 | 0.804 | 0.941 | 0.07 | 0.61 | 0.752 | 0.977 | 0.06 |

Note: model fit for automotive: $\chi^2$ (406) = 721.203; CFI = 0.94; TLI = 0.93; SRMR = 0.06 and RMSEA = 0.049 (CI: 0.045, 0.054) and for Technology: $\chi^2$ (406) = 777.636; CFI = 0.94; TLI = 0.94;
SRMR = 0.05 and RMSEA = 0.053 (CI: 0.047, 0.060).
[a] All factor loadings are significant at $p < .001$.
[b] Unit loading indicator constrained to 1. Average Variances Extracted (AVEs) reported in bold.

**Table 2**
Origin of the model's constructs.

| Construct | Definition | Sources & measurement items |
| --- | --- | --- |
| Alignment of MWD connectivity perceptions and occupational identity | Degree to which people think that the properties of MWD align with what they think is important to do their job. | 4-item scale constructed for this study<br>Motives for using MWD (Peters & Ben Allouch, 2005) were adapted to the workplace and completed with an assertion expressing the necessity of the MWD to live up to one's occupational identity (Mazmanian, 2013, Wajcman & Rose, 2011) |
| Susceptibility to social pressure | Likelihood a person conforms to external pressure. | Adapted 5-item scale<br>Fenigstein et al.'s (1975) scale of public self-consciousness was adapted to one's work situation. Three items had already been used in the working context (May et al., 2004) and were only slightly adapted to focus on the person instead of the work itself. Two more items by Fenigstein et al. (1975) were adapted identically. |
| Visibility of co-workers' communication practices | Concrete sense of how peers are engaging with MWD. | 4-item scale constructed for this study<br>Based on qualitative findings by Mazmanian (2013) revealing the attributes of visibility as the theoretical basis |
| Visibility of co-workers' communication practices | Concrete sense of how supervisors are engaging with MWD. | 4-item scale constructed for this study<br>Based on qualitative findings by Mazmanian (2013) revealing the attributes of visibility as the theoretical basis |
| Constant connectivity | Employees' 24/7 connectedness to the organization through their use of work-related communication media. | 5-item scale constructed for this study<br>Based on Porter and Kakabadse (2006); Boswell and Olson-Buchanan (2007); and conceptual work of Wajcman and Rose (2011); Perlow (2012) |
| Psychological detachment | People's unwinding and recuperation processes from work. | Adopted 3-item scale from the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007) |
| Segmentation preferences | Degree to which employees prefer to keep social and professional domains separated or integrated. | Adopted 4-item scale from Kreiner (2006) |
| Well-being | Degree to which an individual feels good about his/her work physically and psychologically. | Adopted 4-item scale from the Well-Being Index by Topp, Ostergaard, Sondergaard, and Bech (2015) |

## 5. Discussion

This study first operationalizes and validates measures for constant connectivity and its organizational-level antecedents based on existing conceptual and empirical studies. Second, this study retests these measures in a structural model, demonstrating that constant connectivity is negatively related to employee well-being through diminished psychological detachment such that constant connectivity reduces psychological detachment, while psychological detachment is positively related to well-being. This negative association exists regardless of the employees' boundary management preferences. In other words, constant connectivity is negatively related to well-being for employees who prefer to segment *and* for employees who prefer to integrate different life domains. In addition, this study found three organizational-level antecedents of constant connectivity that might provide a starting point from which to reduce connectivity levels and subsequently improve employee well-being.

### 5.1. Theoretical implications

To conceptualize constant connectivity, a combination of its core aspects reported in earlier studies was adopted and operationalized (Boswell & Olson-Buchanan, 2007; Mazmanian, 2013; Perlow, 2012; Porter & Kakabadse, 2006; Wajcman & Rose, 2011). We build on Mazmanian (2013) to conceptualize and operationalize the organizational-level antecedents of connectivity. By conceptualizing and operationalizing these measures, this study contributes to the literature in the following three ways.

First, this study contributes to existing work by examining the alignment between MWD connectivity perception and occupational identity, susceptibility to social pressure, and visibility of communication practices of co-workers and supervisors as possible antecedents of constant connectivity (Schlachter et al., 2017). The results showed that the alignment between MWD connectivity perception and occupational identity had the strongest association with constant connectivity. In other words, if employees feel that the properties of the MWD are useful in helping them live up to their occupational identity, this results in increased availability and responsiveness. The second-strongest antecedent of constant connectivity was the visibility of the communication practices of *co-workers* (rather than supervisors). Being aware of the communication practices of colleagues – for example, through frequent cc-ing of co-workers on email messages – increased respondents' perceptions of constant connectivity to their work. The relationship between the visibility of co-workers' communication behavior and constant connectivity could indicate mechanisms of concertive control. Concertive control refers to co-workers explicitly or implicitly setting norms and expectations among themselves regarding certain behaviors and reprimanding those who do not conform (Barker, 1993). Another issue here is that if supervisors provide influential modeling through visibility of their practices, then all co-workers associated with that supervisor would be somewhat influenced. Hence, co-workers might adjust their practices based on the work practices they observe from their supervisor. Ultimately, the

**Table 3**
Model validity measures, correlation matrix, and descriptive statistics.

| Variable | M (sd) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | M (sd) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Constant connectivity | 3.75 (0.98) | – | 0.43* | 0.16* | 0.33* | 0.24* | -0.10 | -0.56* | -0.38* | 0.10 | -0.11 | -0.22* | 0.03 | 0.40* | -0.13* | 3.66 (1.06) |
| 2. Alignment | 3.88 (0.84) | 0.31* | – | 0.01 | 0.25* | 0.15* | 0.24* | -0.12 | -0.24* | 0.11 | -0.10 | -0.21* | 0.08 | 0.22* | -0.22* | 4.26 (0.74) |
| 3. Susceptibility to social press. | 2.79 (0.99) | 0.23* | 0.09 | – | 0.10 | 0.12 | -0.31* | -0.32* | 0.13* | -0.10 | -0.08 | -0.04 | -0.07 | 0.11 | -0.01 | 3.28 (1.04) |
| 4. Visibility of co-worker com. | 3.55 (0.86) | 0.24* | 0.16* | 0.15* | – | 0.61* | -0.15* | -0.23* | 0.01 | -0.10 | 0.06 | -0.14* | 0.03 | 0.19* | -0.14* | 3.55 (0.95) |
| 5. Visibility of supervisor com. | 3.87 (0.87) | 0.21* | 0.17* | 0.09 | 0.63* | – | -0.02 | -0.10 | -0.06 | 0.00 | -0.03 | -0.16* | 0.03 | 0.20* | -0.14* | 3.87 (1.07) |
| 6. Well-being | 3.17 (0.94) | -0.04 | 0.04 | -0.25* | -0.12* | -0.04 | – | 0.42* | -0.26* | 0.11 | -0.10 | -0.00 | 0.03 | -0.09 | -0.01 | 3.37 (0.85) |
| 7. Psychological detachment | 3.32 (0.94) | -0.38* | 0.11 | 0.25* | 0.23* | 0.15* | -0.40* | – | 0.20* | -0.07 | 0.11 | 0.11 | -0.07 | 0.41* | 0.10 | 3.08 (1.06) |
| 8. Segmentation preferences | 3.74 (0.86) | -0.28* | -0.09 | 0.03 | 0.01 | -0.00 | -0.20* | 0.06 | – | -0.08 | 0.07 | 0.08 | -0.05 | -0.17* | 0.12 | 3.63 (1.02) |
| 9. Age | 39.74 (8.34) | 0.08 | -0.01 | -0.04 | -0.09 | -0.13* | 0.9 | -0.00 | -0.06 | – | -0.32* | -0.00 | 0.59* | 0.19* | -0.04 | 47.17 (9.08) |
| 10. Gender (m = 0; f = 1) | 0.11 (0.31) | 0.03 | 0.01 | 0.09 | 0.16* | 0.06 | 0.05 | 0.00 | 0.02 | -0.13* | – | -0.00 | -0.13* | -0.34* | 0.02 | 0.21 (0.41) |
| 11. Higher Education | 1.92 (1.27) | -0.08 | 0.06 | -0.01 | 0.10 | 0.12* | 0.09 | -0.13* | 0.02 | -0.10 | 0.06 | – | 0.23* | -0.23* | 0.19* | 2.28 (1.41) |
| 12. Tenure | 8.63 (7.21) | 0.23* | 0.03 | -0.02 | 0.03 | -0.00 | -0.07 | 0.12 | -0.07 | 0.49* | -0.11 | -0.13* | – | 0.06 | -0.12 | 17.28 (8.57) |
| 13. Working hours p/w | 48.40 (7.04) | 0.25* | 0.18* | 0.01 | 0.20* | 0.15* | -0.09 | 0.22* | -0.03 | 0.08 | -0.11 | 0.03 | 0.21* | – | -0.31* | 45.36 (8.89) |
| 14. Management position | 0.55 (0.50) | 0.30* | 0.15* | -0.02 | 0.07 | 0.05 | 0.00 | 0.14* | -0.15* | 0.31* | -0.08 | 0.03 | 0.44* | 0.30* | – | 0.73 (0.44) |
| **Automotive model validity measures** | | | | | | | | | | | | | | | | |
| Composite reliability | | 0.89 | 0.86 | 0.86 | 0.88 | 0.89 | 0.84 | 0.89 | 0.87 | – | – | – | – | – | – | |
| Average variance extracted | | 0.61 | 0.60 | 0.56 | 0.71 | 0.72 | 0.58 | 0.72 | 0.63 | – | – | – | – | – | – | |
| Square root of AVE | | 0.78 | 0.78 | 0.75 | 0.84 | 0.85 | 0.76 | 0.85 | 0.80 | – | – | – | – | – | – | |
| Maximum shared variance | | 0.16 | 0.12 | 0.08 | 0.36 | 0.36 | 0.19 | 0.19 | 0.08 | – | – | – | – | – | – | |
| Average shared variance | | 0.07 | 0.03 | 0.03 | 0.08 | 0.07 | 0.05 | 0.07 | 0.02 | – | – | – | – | – | – | |
| **Technology model validity measures** | | | | | | | | | | | | | | | | |
| Composite reliability | | 0.88 | 0.79 | 0.90 | 0.87 | 0.91 | 0.82 | 0.86 | 0.88 | – | – | – | – | – | – | |
| Average variance extracted | | 0.59 | 0.50 | 0.64 | 0.69 | 0.76 | 0.53 | 0.68 | 0.64 | – | – | – | – | – | – | |
| Square root of AVE | | 0.77 | 0.70 | 0.80 | 0.83 | 0.87 | 0.73 | 0.83 | 0.80 | – | – | – | – | – | – | |
| Maximum shared variance | | 0.31 | 0.19 | 0.10 | 0.37 | 0.37 | 0.18 | 0.31 | 0.14 | – | – | – | – | – | – | |
| Average shared variance | | 0.12 | 0.06 | 0.04 | 0.09 | 0.07 | 0.06 | 0.10 | 0.05 | – | – | – | – | – | – | |

Values below the diagonal belong to the automotive organization, values above the diagonal belong to the technology organization.

**Table 4**

Unstandardized pathways using bootstrapping for both samples.

| | | Result | Sample 1 technology firm ($N = 378$) | | | | | Sample 2 automotive firm ($N = 274$) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Bootstrapping | | BC 95% CI | | | Bootstrapping | | BC 95% CI | | |
| | | | Estimate | SE | Lower | Upper | P | Estimate | SE | Lower | Upper | P |
| H1a | Constant connectivity ➔ well-being | Rejected | −0.100 | 0.073 | −0.237 | 0.055 | 0.188 | −0.079 | 0.091 | −0.255 | 0.105 | 0.401 |
| H1b | Constant connectivity ➔ detachment ➔ well-being | Supported | −0.279 | 0.052 | −0.394 | −0.189 | 0.001 | −0.199 | 0.047 | −0.303 | −0.119 | 0.001 |
| H2 | Constant connectivity ➔ detachment*segmentation ➔ well-being | Rejected | −0.060 | 0.041 | −0.152 | 0.011 | 0.105 | 0.020 | 0.030 | −0.030 | 0.089 | 0.382 |
| H3 | Alignment of connectivity perceptions ➔ constant connectivity | Supported | 0.497 | 0.098 | 0.329 | 0.705 | 0.002 | 0.322 | 0.081 | 0.174 | 0.490 | 0.003 |
| H4 | Social pressure ➔ constant connectivity | Supported | 0.109 | 0.046 | 0.021 | 0.202 | 0.014 | 0.240 | 0.063 | 0.126 | 0.378 | 0.001 |
| H5a | Visibility of co-workers' communication ➔ constant connectivity | Supported[a] | 0.225 | 0.084 | 0.081 | 0.418 | 0.006 | 0.204 | 0.125 | −0.034 | 0.464 | 0.104 |
| H5b | Visibility of supervisors' communication ➔ constant connectivity | Rejected | 0.037 | 0.054 | −0.054 | 0.161 | 0.423 | 0.019 | 0.119 | −0.232 | 0.235 | 0.933 |

Note:

[a] We found mixed results for the influences of visibility of co-workers' practices as the result was significant in Sample 1 but not Sample 2.

visibility of these work practices and connectivity may mutually reinforce each other. Additional research is needed to uncover the mechanisms through which the visibility of supervisors' work practices may (directly or indirectly) influence connectivity behaviors and the visibility of co-workers' practices. Multi-level modeling could tease out these different sources of variance related to the visibility of co-workers' and supervisors' work practices. Finally, if employees are concerned about the judgment of their colleagues and want to make a good impression, this concern is related to connectivity levels. Specifically, susceptibility to social pressure was associated with constant connectivity. This finding is in line with earlier studies showing that availability has been used as a tool for impression management (Barley et al., 2011; Perlow, 2012). We did not find a relationship between the visibility of supervisors' communication practices and constant connectivity. This finding might be attributed to our operationalization of the two visibility measures. Because the wording of the items is exactly the same, only varying the words 'colleagues' and 'manager,' the two constructs seem to account for the same variance in the structural model. This explanation is substantiated by the significant correlation between the visibility of the supervisor's communication practices and constant connectivity. Additionally, the visibility of the supervisor's communication practices is a significant antecedent of constant connectivity when the visibility of co-workers' communication practices is taken out of the equation.

Second, by demonstrating an indirect negative relationship between constant connectivity and employee well-being, through psychological detachment, this study not only contributes to extant knowledge about possible outcomes related to constant connectivity (for a review, see Ďuranová & Ohly, 2016) but also shows that lack of psychological detachment is an important underlying mechanism in the negative relationship between constant connectivity and employee well-being (Sonnentag & Bayer, 2005). This finding is in line with previous research that studied psychological detachment as an underlying mechanism in the relationship between the frequency of connection of people after working hours and individual outcomes important to work performance, such as sleep (Barber & Jenkins, 2014) and exhaustion (Derks et al., 2014).

Finally, the fact that we could not confirm segmentation preferences as a moderator shows that the negative association between constant connectivity and employee well-being through diminished psychological detachment exists independently of employees' boundary management preferences. Thus, this study illustrates the importance of psychological detachment for employees regardless of their segmentation or integration preferences. Although the employees with segmentation preferences generally experienced a lower level of well-being, *all* employees' well-being was related to psychological detachment. This might indicate that alignment between boundary management preferences and possibilities is important in the context of specific work outcomes, such as work-family conflict (Derks et al., 2014) or job satisfaction (Kreiner, 2006); however, psychological detachment is indispensable for all employees when it comes to one's overall well-being.

*5.2. Practical implications*

Because employee well-being is essential for the functioning of organizations (Danna & Griffin, 1999), this study's findings regarding the negative association between constant connectivity and employee well-being are of high interest for practitioners and highlight the importance of ensuring psychological detachment and of preventing the development of constant connectivity among the workforce.

Organizations might want to focus on organizational-level antecedents of constant connectivity. It may be especially useful to manage employees' impression of constant connectivity being part of their occupational identity, as employees care about living up to their professional identities (Pratt, Rockmann, & Kaufmann, 2006). In this respect, Boswell et al.'s (2016) guide to managing electronic work-related communication after-hours, which emphasizes the importance of managing expectations regarding employees' responsiveness, might be useful. Organizations could follow the examples of Volkswagen or the Boston Consulting Group, which set

specific policies regarding electronic communication after work-hours, defining timing, communication channels and subjects that should or should not be discussed after hours (Boswell et al., 2016). Because susceptibility to social pressure is also positively related to constant connectivity, a supportive work climate should be established with positive feedback and encouragement that allows employees to experience psychological safety (Kahn, 1990) and thus dare to be connected in ways that are beneficial for their work *and* themselves. Regarding the visibility of others' communication practices, it may be helpful to define when people need to be cc-ed on e-mails and, in turn, which information may only be shared at daily or weekly meetings in order to not overburden employees with e-mails. This approach emphasizes the usefulness of a guide to managing electronic communication after-hours, like the one by Boswell et al. (2016).

To ensure the opportunity for psychological detachment, organizations may raise awareness of the importance – for all employees – of switching off from work and may establish a supportive recovery climate (Bennett, Gabriel, Calderwood, Dahling, & Trougakos, 2016) where it is generally accepted to switch off during non-work time. Different interventions have shown success in enhancing employees' psychological detachment (for a review see Sonnentag, Venz, & Casper, 2017). For example, mindfulness training has been shown to benefit psychological detachment (Michel, Bosch, & Rexroth, 2014). Additionally, internet-based stress-management interventions (Ebert et al., 2016) can enhance psychological detachment and are easily implemented in large organizations.

### 5.3. Limitations and future research

The limitations of this study need to be taken into account when interpreting the present findings. The first limitation concerns the cross-sectional nature of this study; for this reason, no causal relationships can be established. Because many important associations have been identified, affecting both individuals and organizations, it would be relevant to replicate the study longitudinally in order to identify the causal relationships between these constructs.

Second, this study is based on self-report data. In future research, self-report data could be combined with assessments of employee well-being from significant others who are aware of employees' stress levels, or with assessments from colleagues who are aware of employees' communication practices. Employee well-being could also be assessed with physiological measurements. Furthermore, research would benefit from combining self-report data with technically generated data, for example by calculating the time people are online or how frequently people check their e-mails with the help of MWDs. Third, our studies were situated in an automotive firm and IT firm, resulting in a sample comprising approximately 85% male respondents (and 15% female respondents). Although gender was not correlated with any of the variables in our model for the IT firm and only with visibility of co-workers' communication in the automotive firm, future research might explore potential differences and similarities between the experiences of male and female workers. One avenue worthy of further inquiry is potential gender equity, which may extend beyond equal work time (Bittman & Wajcman, 2000) to equal challenges related to managing connectivity and work-life demands.

Finally, in the present study, there were some issues with the operationalization of visibility of co-workers' communication and visibility of supervisors' communication practices. First, we used similar items for both constructs, only replacing the word 'colleagues' with 'manager'. This might have caused some issues in our measurement model. In addition, in our reasoning regarding the relationship between the visibility of communication practices and constant connectivity, we implied that colleagues and supervisors would display "always-on" communication practices. However, colleagues and/or supervisors could also be segmenters and demonstrate limited use of MWDs, which could actually reduce constant connectivity. Regardless of the cause, we could not find a relationship between the visibility of the supervisor's communication practices and constant connectivity, where previous studies did find this relationship (Ďuranová & Ohly, 2016; Schlachter et al., 2017). Future research should clarify the role of the communication practices of colleagues and supervisors in constant connectivity to work.

To conclude, the present study sheds light on different organizational antecedents of constant connectivity to work: alignment between MWD connectivity perception and occupational identity, susceptibility to social pressure, and the visibility of co-workers' communication practices. Furthermore, this study demonstrates that these antecedents are particularly important because constant connectivity is related to impaired well-being, through diminished psychological detachment. Psychological detachment appears to be important for all employees, independently of their boundary preferences. Thus, in summary, these insights into the organizational origins of constant connectivity can be used to promote a recovery climate in which employees are able to disconnect from work after hours, thus helping to stimulate employee well-being.

### Declaration of competing interest

The authors have no conflicts of interest to declare.

### Acknowledgement

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