

Worker well-being and digital boundaries:
Exploring the effect of leader ICT expectations and behaviours

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I would like to dedicate this work to my father, whose belief in me has always and will forever lift me up.

JJ Tonet
May 11, 1937 – November 15, 2018

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Abstract

Although ICT use enables flexibility and autonomy for workers, it also contributes to blurred boundaries between work and life domains and can result in impaired well-being (e.g., Day et al., 2012). This study explores the influence of leader ICT availability/response expectations and initiation behaviour outside of traditional work hours and the relationships with stress and burnout. Subordinates reported more stress, but not burnout when perceived leader expectations and initiation was higher. However, leaders reported more stress, emotional exhaustion, and cynicism in relation to having higher expectations for subordinates and higher instance of initiating ICT messages after-hours. Furthermore, when subordinates preferred work-home integration, this moderated the relationship between leader expectations and cynicism, such that cynicism was lower when subordinates preferred more role integration and believed their leaders expected them to use work ICT during off-hours. Avenues for future studies and practical implications for accommodating individual preferences are suggested.

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Worker well-being and digital boundaries:

Exploring the effect of leader ICT expectations and behaviours

Information and communications technologies (ICT; e.g., laptops; smartphones; email) have become an integral part of the modern workplace, connecting people with their work across spatial and temporal boundaries. This cross-boundary connectivity allows workers to collaborate, communicate, and stay on top of work demands both during and after traditional working hours. Indeed, ICT facilitates flexibility and autonomy for today's workers in deciding when and how work gets accomplished (e.g., Day, Scott, & Kelloway, 2010; Mazmanian, Orlikowski, & Yates, 2014; O'Driscoll, Brough, Timms, & Sawang, 2010). However, ICT use for work purposes also has its drawbacks: the constant connection to work and the blurring of work-home boundaries can result in the feeling of being tethered and unable to detach from work, which may increase stress and burnout (e.g., Day et al., 2010; Day, Scott, Paquet, Hambley, 2012; Mazmanian et al., 2014; Ter Hoeven, van Zoonen, & Fonner, 2016). Because of this potential for negative well-being outcomes, countries (e.g., France, Germany) and organizations (e.g., BMW, Volkswagen) have recently implemented rules and rights governing ICT use outside of working hours (e.g., Wang, 2017). However, given that ICT can be both a demand and a resource for employees, it is important to understand the mechanisms through which ICT use impacts worker well-being, which can then inform policies and regulations in practice. Some insight may be gleaned by looking at leaders. Leaders have disproportional influence on organizational processes and practices (e.g., Hogg & Levine, 2010). When it comes to ICT use, what leaders do and are perceived to expect from workers during typical off-work hours, may influence how workers use ICT, and in turn, their experiences of stress and burnout. Therefore, I examined the

relationship between leader ICT expectations (i.e., expectations for availability via ICT and responding to work-related ICT messages, such as email and texts) and initiation behaviour (i.e., sending work-related ICT messages) outside of work hours and stress and burnout. I also examined how preferences for integration and levels of telepressure were related to stress and burnout, and the extent to which these individual factors may moderate the relationships between ICT expectations/initiation and worker outcomes.

ICT Expectations/Initiation and Worker Well-being

Several job stress models may help explain this link between leader expectations and behaviours and worker well-being outcomes. For example, the Job Demands-Resources model (JD-R; Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) posits that resources are those aspects of the job that help reduce stress, whereas the presence of persistent or excessive job demands may deplete an individual's physical and psychological resources, which can subsequently result in stress reactions. Specifically, this *health impairment process* (Bakker & Demerouti, 2007; Demerouti et al., 2001) can serve to deplete workers' resources of time and energy, leading to stress and burnout (Day et al., 2012). *Stress* is defined in terms of one's subjective reaction to a demand, in which the individual perceives a situation as taxing and/or potentially threatening to one's resources or well-being (Lazarus & Folkman, 1984). *Burnout* is described as "a psychological syndrome in response to chronic interpersonal stressors on the job," (Maslach, Schaufeli, & Leiter, 2001, p. 399). This response is characterized by emotional exhaustion, cynicism, and reduced professional efficacy (Maslach, Schaufeli, & Leiter, 2001). It stands to reason that the expectation to be available, monitor, and

respond to work-related communications outside of work could be perceived as persistent or excessive job demands, and thus may result in stress and burnout.

Using the concept of *recovery* may be another means to understanding the process through which leader ICT expectations and behaviour may influence worker well-being outcomes. Recovery can be described as an experience that allows workers to recuperate from work stress by replenishing resources that have been lost due to work demands (Sonnentag & Fritz 2007). Additionally, disengaging one's self mentally from work tasks, emotions, and thoughts, or *psychological detachment*, can contribute to recovery (Sonnentag & Fritz, 2007). In turn, detachment has been demonstrated to be related to worker well-being and performance capabilities (e.g., Sonnentag, Binnewies, & Mojza, 2010). Therefore, being expected to be available, monitor, and respond to work-related communications outside of work may result in difficulty mentally detaching and unwinding from work (Middleton, 2007; Park, Fritz, & Jex, 2011), and thus, be related to lower wellbeing.

Leader and Organizational Influences

Studies have found support for the influence of leader expectations and behaviour on employee stress and well-being (e.g., Kelloway & Barling, 2010; Offermann & Hellmann, 1996; Skakon, Nielsen, Borg, & Guzman, 2010) such that positive leadership is associated with positive worker outcomes such as psychological well-being (e.g., Arnold, Turner, Barling, Kelloway, & McKee, 2007) and poor leadership is associated with negative outcomes, including employee stress (Offermann & Hellmann, 1996). In fact, the supervisor-subordinate relationship is reported as one of the most common sources of stress in organizations (e.g., Bamberger & Bacharach, 2006).

Employees' use of ICT is strongly influenced by workgroup norms, more so than even technological innovations or original tech implementation intentions of the organization (Fulk, Schmitz, & Schwarz, 1992; Orlikowski, 1992, 2000). Specifically, the interactions within the workgroup (i.e., both supervisors and coworkers) may influence the normalization of availability and response times outside of work hours (Derks et al., 2015). As role models and authority figures within organizations, what leaders attend to and the behaviours they display or reward, have a particularly significant influence in the formation of organizational norms (Bass & Avolio, 1993). For example, when a supervisor sends an email over the weekend, they may be unknowingly influencing their subordinate's thoughts or behaviours by endorsing the norm of working over the weekend. In essence, the instantaneous nature of ICT may be changing social expectations about acceptable response times and availability during, and outside of, work. Indeed, this 'norm of responsiveness' and expectation of 'always availability' has been reported in multiple studies of ICT and stress (Barley, Meyerson, & Grodal, 2011; Derks & Bakker, 2010; Perlow, 2012). As such, when leaders expect subordinates to be available through ICT and/or to respond to communications outside of work (or even when subordinates simply perceive that their leaders expect or endorse these types of behaviours), subordinates may respond with behaviour that matches those expectations, whether or not it fits with their personal preferences. Thus, I hypothesize that:

Hypothesis 1: Subordinates' perceived leaders' ICT (a) expectations and (b) initiation are associated with their own increased stress and burnout (i.e., emotional exhaustion, cynicism, and diminished professional efficacy).

That is, when subordinates perceive their leaders to have high expectations to be available and initiate ICT use after hours, they will report higher levels of stress and burnout.

Moreover, it stands to reason that if leaders have high expectations for others as well as high instance of initiation behaviour via ICT after-hours, the same health impairment process in the face of persistent job demands and/or depletion of resources due to lack of recovery is taking place. Thus, I hypothesize that:

Hypothesis 2: Leaders' report of their own ICT (a) expectations and (b) initiation are associated with their own increased stress and burnout (i.e., emotional exhaustion, cynicism, and diminished professional efficacy).

Individual Influences

According to the Transactional Model of Stress (Lazarus & Folkman, 1984), workers may perceive the same ICT experience (e.g., receiving an email from a leader over the weekend) as either a negative threat/demand (e.g., an interruption of their personal time) or a fulfilling resource (e.g., an engaging diversion). These reactions represent an individual's *primary appraisal* of the situation or experience. Primary appraisals affect an individual's initial evaluation of a particular event (Lazarus & Folkman, 1984). Following this theory, using ICT for work purposes is not inherently good or bad; instead, its evaluation as a resource or a demand is dependent on the values, attitudes, and preferences of the individual who is doing the evaluating. Two constructs that may be particularly relevant to the interpretation of ICT as a demand or a resource are boundary work-home integration preference and workplace telepressure.

Work-Home Boundary Integration Preferences. Boundary theory suggests that individuals differ according to the extent that they prefer to integrate or segment their work and home roles (Ashforth et al., 2000). Integrators prefer to transition fluidly and frequently between work and home domains. Integration is characterized by highly flexible (i.e., temporally and physically malleable) and permeable (i.e., prone to cross-role interruption and spillover) boundaries (Ashforth et al., 2000). Segmentors prefer to keep role behaviours and thoughts separate within each domain, such that segmentation is characterized by boundaries low in flexibility and permeability (Ashforth et al., 2000).

There are costs and benefits associated with each boundary management style. Although integration may facilitate flexibility in when and how workers accomplish job or personal tasks, it fundamentally involves a blurring of work-home boundaries and cross-role interruptions. Losing the temporal and spatial boundaries that confine job tasks to a specific work space during specified work hours may mean that recovery (and specifically, psychological detachment) is harder to attain, such that resources may not replenished during non-work time (Sonnentag & Fritz, 2015). Even though segmentation reduces the blurring and interruption between roles, dissociating these roles is often difficult (Kanter, 1977), especially when ICT devices facilitate boundary-crossing. Indeed, fewer people show high levels of segmentation in practice, and majority tend toward integration behaviours (Bulger et al., 2007). Moreover, in line with Kanter's (1977) myth of the separate work and home worlds, forcing segmentation may create strict artificial boundaries that create more stress.

Additionally, according to Kossek and Laustch (2012), boundary management between work and home happens 'in situ' and thus, is reliant on the interaction of

individual preferences *and* organizational factors. That is, when there are strong organizational norms (i.e., when there are strong norms within the organization to remain available and/or respond to ICT messages after-hours), even workers with a preference for integration could lose their sense of autonomy in *deciding* to use ICT during non-work hours (Derks et al., 2015; Kossek & Laustch, 2012). However, integrators also have been shown to have more difficulties in creating boundaries when they are not strongly emphasized within the organizational culture (Derks et al., 2015). Therefore, integrators should exhibit less negative well-being outcomes compared to workers who prefer less integration (or segmentation) due to the inherent flexibility that is characteristic of role boundary integration. Also, integration preference may buffer the relationships between leader ICT expectations/behaviour and subordinate outcomes. That is, when integration preference and leader expectations/initiation behaviours match, subordinates should have less well-being impairments. However, subordinates will report more well-being impairments when there is low integration and high perceived expectations and initiation.

Thus, I hypothesize that:

Hypothesis 3: (a) Subordinates' preference to integrate their work and nonwork roles is associated with lower stress and burnout after controlling for subordinates' perceived leader ICT expectations and initiation, and (b) integration moderates the relationship between expectations/initiation and stress/burnout.

That is, subordinates' preference for lower integration will result in a stronger relationship between perceived leader expectations/initiation and subordinates' stress and burnout, and a preference for higher integration will buffer any negative effect of leader expectations and initiation behaviours on subordinate stress and burnout.

Workplace telepressure. Workplace telepressure is defined as a preoccupation with work-related ICT messages accompanied by an urge to respond to them promptly (Barber & Santuzzi, 2015, 2017). Telepressure tends to lead to several stress-related outcomes, including burnout, absenteeism, and poor sleep quality, after controlling for work-related demands (Barber & Santuzzi, 2015). Workplace telepressure has been described as a psychological, state-like reaction or response to work-related ICT demands, which accounts for significant variance in well-being above and beyond other individual differences and work demands alone (Barber & Santuzzi, 2015). Alternatively, Grawitch, Werth, Palmer, Erb, and Lavigne (2017) indicated that telepressure, rather than being a reaction to work-related demands exclusively, is explained comparably by both trait-like individual differences (e.g., workaholism, neuroticism) or internal pressures, as well as external pressures such as perceived expectations or work demands. Moreover, longitudinal data from Cambier, Derks, and Vlerick (2019) suggested that there are approximately equal amounts of within- and between-person variability in the construct of telepressure. These data indicate that telepressure varies not only from individual to individual, but it also varies substantially within individuals across time and situations, lending support to the state-like nature of telepressure. Thus, there is a need to better understand the construct of telepressure and its distinctiveness from other state and trait variables.

Mixed results have been found regarding whether telepressure is a useful construct that adds value beyond more well-established measures, and whether it is in itself predictive of well-being and stress-related outcomes (Grawitch et al., 2017). For example, although Barber and Santuzzi (2015) found that individuals' levels of

telepressure were positively associated with email responding behaviour, they did not distinguish between responding during work and non-work time. In analyzing these response behaviours separately, Grawitch et al. (2017) found that telepressure was associated with increased response behaviours both during and after work. However, after controlling for individual differences and work demands, individual levels of telepressure only explained unique variance in email behaviour during work hours, and not during non-work hours. Furthermore, although telepressure was significantly correlated with three stress-related outcomes (positively associated with emotional exhaustion¹, and negatively with psychological detachment and satisfaction with work-life balance), it did not account for any unique variance in these outcomes when other individual differences and work demands were included. Consequently, there is a need to further examine the construct of workplace telepressure and its relation to well-being outcomes and ICT use, particularly when controlling for other individual differences, such as neuroticism and workaholism (Grawitch et al., 2017). Thus, I hypothesize that:

Hypothesis 4: Telepressure is (a) related to neuroticism and workaholism, but (b) accounts for incremental variance in predicting stress/burnout after controlling for neuroticism and workaholism. This relationship will be consistent for both leaders and subordinates.

Moreover, telepressure may moderate the relationships between expectations/initiation and subordinate outcomes. That is, when telepressure is low and there are low levels of perceived leader expectations/behaviours, subordinates should have less well-being

¹ Grawitch et al. (2017) did not examine the cognitive/physical aspects of burnout in relation to telepressure, for which Barber and Santuzzi (2015) found incremental validity.

impairments. However, subordinates will report more well-being impairments when there is high telepressure and high expectations and initiation.

Hypothesis 5: Subordinates' level of telepressure (a) accounts for incremental variance in subordinate stress/burnout after controlling for perceived leader ICT expectations and initiation, and (b) moderates the relationships between subordinates' perceived leader ICT expectations and initiation behaviour and their own stress/burnout, such that when telepressure is high, the relationship between expectations/initiation and stress/burnout will be stronger than when telepressure is low.

Method

Participants and Procedure

Participants from Canada and the United States were recruited online through Amazon's Mechanical Turk (MTurk) and social media (i.e., Facebook, Twitter, and LinkedIn). Previous research has suggested that data gathered from MTurk respondents is comparable in reliability and validity to data gathered from more traditional sources (e.g., Landers & Behrend, 2015). Participants were required to be (a) over 18 years old and (b) employed full- or part-time. To increase the likelihood of obtaining quality responses, MTurk respondents were required to have a minimum of 50 HITs approved and a HIT approval rating of 90% or greater, in line with other research that has used MTurk samples (e.g., Grawitch et al., 2017).

All participants completed one of two 15-minute survey hosted on the Qualtrics platform: leaders (i.e., managers, supervisors, and those with at least 1 direct report) completed a leader survey, and employees not in a current leadership position completed a subordinate survey. MTurk respondents were compensated \$0.75 USD if they finished

the survey. Both leaders and subordinates were asked about ICT use, leader expectations, work-home boundary preferences, and work experiences, as well as demographic information (see measures below). Although 590 respondents initially participated in the survey, 223 (38%) were removed because they either did not submit the survey or completed the survey more than once (in these cases the first submission was retained). An additional 13 (4%) were removed as they did not meet participation requirements (i.e., worked on a casual or temporary basis and/or were not living in Canada or the US). Of the 219 leaders who responded to the survey, 25 (11%) of them indicated that they did not have a direct report, and thus, they were excluded from the study. The final sample size was 329 respondents, with 194 leaders and 135 subordinates. The majority of the participants identified as women (62% overall; 56% of leaders and 71% of subordinates), and full-time employees (94% overall; 98% of leaders and 87% of subordinates), with an average age of 39 years ($SD = 10.55$) and an average tenure of 7 years ($SD = 6.45$; $M_{leaders} = 7.69$ years, $SD = 6.47$; $M_{subordinates} = 6.33$ years; $SD = 6.36$). Only 42% of participants reported having children under the age of 18 living at home (46% of leaders and 36% of subordinates), and 16% reported having caregiving responsibilities (16% of leaders and 15% of subordinates). Finally, respondents reported working on average 41 hours per week ($SD = 11.30$; $M_{leaders} = 43$ hours, $SD = 12.69$; $M_{subordinates} = 38$ hours, $SD = 7.79$), and 57% of leaders had more than 4 direct reports². There were no significant differences in demographic variables between the MTurk and convenience sample. However, there were significant differences between the leader and subordinate samples on gender (Leaders: 86 men, 108 women; Subordinates: 39 men, 96 women, $F(1, 327) =$

² There were two outlying responses for number of direct reports (i.e., 150 and 450 direct reports) that impact the descriptive statistics of this variable.

8.21, $p < .01$, $w = .15$), employment status (Leaders: 191 full-time, 3 part-time; Subordinates: 118 full-time, 17 part-time, $F(1, 327) = 17.83$, $p < .001$, $w = .22$), tenure ($M_{leaders} = 7.69$ years, $SD = 6.47$; $M_{subordinates} = 6.33$ years, $F(1, 327) = 5.36$, $p < .05$, $w = .12$), children under 18 (Leaders: 93 leaders did not have children under 18 years old, 101 had children under 18 years old; Subordinates: 87 no, 48 yes, $F(1, 327) = 8.94$, $p < .01$, $w = .15$), and hours worked per week ($M_{leaders} = 43$ hours, $SD = 12.69$; $M_{subordinates} = 38$ hours, $F(1, 323) = 25.53$, $p < .001$, $w = .26$). Although the observed effect sizes are small (Field, 2009), these differences indicate that there were significantly more men, full-time workers, and workers with children under 18 in the leader group compared to the subordinate group. Also, leaders worked on average 5 hours more per week than subordinates and they had an average of 2 years longer their current job.

Measures

Demographics. All participants provided the following demographic information: age, gender identity, highest level of education, employment status, job tenure, industry, job title, managerial status and number of direct reports, typical working and teleworking hours, as well as child and caregiving duties.

Work ICT use during non-work hours. A three-item scale was developed to assess ICT use (i.e., receiving, monitoring, and responding to work-related messages), which was based on Barber and Santuzzi's (2015) frequency of e-mail responding scale. Unlike the former scale which asked respondents how often they typically respond to messages from work in five situations (i.e., during work hours, evenings, weekends, vacation days, and sick days), non-working hours was clumped into a single situation of interest for the current study. Also, in order to capture not only responding, but also

receiving and monitoring behaviour, two items were added based on the same language of the responding item. Thus, both leaders and subordinates used a 5-point frequency scale (1 = *rarely or never* to 5 = *frequently, if not always*)³ to report how often they typically received, responded, and monitored work-related messages during non-work hours (e.g., “How often do you typically receive work-related messages during non-work hours?”). The internal reliability of the work ICT use during non-work hours scale was $\alpha = .86$ ($\alpha = .84$ for leaders and $\alpha = .89$ for subordinates).

Leader ICT expectations. A three-item scale was developed based on Day et al.’s (2012) ICT Demands, Response, and Availability subscales to measure ICT response, availability, and monitoring expectations. Item wording was changed to focus on leader expectations and non-work hours, specifically as opposed to the more general wording of the former scale. The two response items from the original scale were combined into a single item encompassing all work-related ICT messages, in lieu of an item for e-mail and voicemail messages separately, as the current study did not differentiate between the various forms of ICT messages (i.e., e-mail, voicemail, and text). Also, only the two availability items from the original scale that focused on perceived expectations were retained.

Leaders used a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*) to indicate the extent to which they **expected** their direct reports to respond to ICT after work hours (e.g., “**I expect direct reports** to be accessible during non-work hours.”). The internal reliability of the ICT expectations scale was $\alpha = .91$ (i.e., leaders).

³ All frequency scales were adapted to use the same labels for clarity and cohesion in the online survey: 1=*rarely or never*, 2=*once in a while*, 3=*sometimes*, 4=*fairly often*, 5=*frequently, if not always*.

Subordinates used a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*) to indicate the extent to which they **perceived that their leaders expected** them to respond to ICT after work hours (e.g., “**My leader expects me** to be accessible during non-work hours.”). The internal reliability of the perceived ICT expectations scale was $\alpha = .91$ (i.e., subordinates).

Leader ICT initiation during non-work hours. A single item was developed to assess leader ICT initiation (i.e., sending of a work-related message) during non-work hours, using similar wording to the work ICT use scale. Leaders used a 5-point frequency scale (1 = *rarely or never* to 5 = *frequently, if not always*) to report how often they typically **initiated** work-related messages with direct reports as recipients during non-work hours. Subordinates used a 5-point frequency scale (1 = *rarely or never* to 5 = *frequently, if not always*) to report how often they typically **received** work-related messages from their leader during non-work hours.

Integration preference. A 6-item scale was developed based on Kreiner’s (2006) Segmentation Preference subscale to assess integration preference. Item wording was adjusted to reflect a positive preference only for clarity (i.e., “I like to” instead of “I don’t like to”) and to avoid emotionally-charged words (e.g. “creeping”). Moreover, to capture the full construct of integration preference, three items were added to address home-into-work integration, as the original scale focused only on work-into-home integration. Both leaders and subordinates used a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*) to indicate the degree to which they preferred to integrate or segment their work and home roles. Given the adjustments to the original scale (i.e., addition of the home-into-work integration item) and to confirm the structure of the current scale (two-factor as

opposed to one-factor from Kreiner, 2006), a Principal Component Analysis with oblique rotation was conducted: Factor loadings from the pattern and structure matrices, scree plot, and Eigenvalues over Kaiser's criterion of 1 indicated a two-factor solution, with 69% of variance explained. One factor consisted of three items related to preferences to integrate work into one's home life (e.g., "I like to think about work while I'm at home"; all factor loadings $> .73$) and explained 42% of variance. The other factor consisted of three items related to preferences to integrate one's home into their work life (e.g., "I like to be able to think about my personal life while I'm at work"; all factor loadings $> .74$) and explained 27% of variance. The internal reliability of the work-home integration preference scale was $\alpha = .77$ ($\alpha = .78$ for leaders and $\alpha = .75$ for subordinates). The internal reliability of the home-work integration preference scale was $\alpha = .72$ ($\alpha = .72$ for leaders and $\alpha = .74$ for subordinates).

Telepressure. Telepressure was measured with the 6-item Workplace Telepressure Measure (Barber & Santuzzi, 2015). Both leaders and subordinates used a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*) to indicate the extent to which they experience telepressure, specifically *urge* (e.g., "I feel a strong need to respond to others immediately") and *preoccupation* (e.g., "It's hard for me to focus on other things when I receive a message from someone"). An exploratory factor analyses using principal component analysis with an oblique rotation was conducted: Results indicated a one-factor solution, with 66% of variance explained (all factor loadings $> .68$). To further explore the distinctiveness of telepressure from other related constructs, workaholism ($r = .44, p < .001$ overall; $r = .47, p < .001$ for leaders; $r = .41, p < .001$ for subordinates) and neuroticism ($r = .31, p < .001$ overall; $r = .32, p < .001$ for leaders; $r =$

.30, $p < .001$ for subordinates) were included with telepressure in a principal component analysis with an oblique rotation. Results indicated a three-factor solution, as expected, with 56% of variance explained. The internal reliability of the telepressure scale was $\alpha = .89$ overall ($\alpha = .88$ for leaders and $\alpha = .91$ for subordinates).

Stress. Stress was measured with the 7-item subscale from the Depression and Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995). The scale assesses *difficulty relaxing* (2 items; e.g., “I found it hard to wind down after work”), *nervous arousal* (1 item; i.e., “I felt that I was using a lot of nervous energy”), *irritability* (2 items; e.g., “I tended to over-react to situations”), *agitation* (1 item; i.e., “I found myself getting agitated”), and *impatience* (1 item, i.e., “I was intolerant of anything that kept me from getting on with what I was doing”). Both leaders and subordinates used a 4-point scale (0 = *did not apply to me at all* to 3 = *applied to me very much, or most of the time*) to indicate the extent to which they experienced stress symptoms within the two weeks preceding responding. The internal reliability for stress was $\alpha = .91$ ($\alpha = .92$ for leaders and $\alpha = .89$ for subordinates).

Burnout. Burnout was assessed using the 16-item Maslach Burnout Inventory – General Survey (MBI-GS; Maslach, Jackson, & Leiter, 1996). Both leaders and subordinates rated their own levels of burnout using a 7-point scale (0 = *never* to 6 = *always*) assessing *emotional exhaustion* (5 items; e.g., “I feel emotionally drained from my work”), *cynicism* (5 items; e.g., “I doubt the significance of my work”), and *professional efficacy* (6 items; e.g., “In my opinion, I am good at my job”). The internal reliability for emotional exhaustion was $\alpha = .95$ ($\alpha = .96$ for leaders and $\alpha = .94$ for subordinates). The internal reliability for cynicism was $\alpha = .86$ ($\alpha = .87$ for leaders and α

= .86 for subordinates). The internal reliability for professional efficacy was $\alpha = .86$ ($\alpha = .84$ for leaders and $\alpha = .86$ for subordinates).

Neuroticism. The 4-item subscale from the Mini International Personality Item Pool (Mini IPIP; Donnellan, Oswald, Baird, & Lucas, 2006) was used to measure neuroticism. Both leaders and subordinates used a 5-point scale (1 = *very inaccurate* to 5 = *very accurate*) to indicate the extent to which they identified with neurotic behaviours/feelings (e.g., “I get easily upset.”). The internal reliability for the neuroticism scale was $\alpha = .75$ ($\alpha = .74$ for leaders and $\alpha = .75$ for subordinates).

Workaholism. The 10-item Dutch Work Addiction Scale (Schaufeli, Shimazu, & Taris, 2009) was used to measure workaholism. Both leaders and subordinates used a 5-point frequency scale (0 = *rarely or never* to 4 = *frequently, if not always*) to indicate the extent to which they work excessively (5-items; e.g., “I find myself continuing to work after my co-workers have called it quits”) and work compulsively (5-items; e.g., “It's important to me to work hard even when I don't enjoy what I'm doing”). The internal reliability for the workaholism scale was $\alpha = .85$ ($\alpha = .86$ for leaders and $\alpha = .84$ for subordinates).

Results

The data was cleaned and screened prior to analysis to ensure data accuracy and quality. Correlations and descriptive statistics are presented in Table 1. After screening and cleaning, less than 5% of data was missing for variables of interest. After compiling scales, all demonstrated acceptable reliabilities with Cronbach's alphas ranging from .74 to .96.

Table 1.
Means, Standard Deviations and Intercorrelations of Variables

<i>Leaders</i> <i>N</i> = 194		<i>M</i>	2.88	2.75	3.23	2.64	3.37	2.32	3.33	.92	2.27	2.11	4.41
		<i>SD</i>	1.15	1.11	.91	1.00	.90	.93	.76	.79	1.69	1.48	1.06
		α	.91	-	.87	.78	.88	.74	.85	.92	.96	.87	.84
Variable			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Leader ICT Expectations ^d		-	.47 ^c	.40 ^c	.32 ^c	.25 ^c	.21 ^b	.31 ^c	.32 ^c	.21 ^b	.17 ^a	-.08
2.	Leader ICT Initiation ^d		.59 ^c	-	.69 ^c	.48 ^c	.27 ^c	.23 ^c	.36 ^c	.32 ^c	.28 ^c	.25 ^c	-.12
3.	Work-related ICT Use (during non-work time)		.66 ^c	.67 ^c	-	.46 ^c	.31 ^c	.21 ^b	.48 ^c	.28 ^c	.29 ^c	.13	.02
4.	Work-Home Integration Preference ^e		.25 ^b	.27 ^c	.37 ^c	-	.13	.16 ^a	.33 ^c	.19 ^b	.03	.07	-.05
5.	Telepressure		.13	.28 ^c	.28 ^c	-.09	-	.32 ^c	.47 ^c	.42 ^c	.38 ^c	.38 ^c	-.12
6.	Neuroticism		.01	.13	.10	.09	.32 ^c	-	.15 ^a	.55 ^c	.58 ^c	.50 ^c	-.39 ^c
7.	Workaholism		.32 ^c	.36 ^c	.38 ^c	.02	.41 ^c	.17 ^a	-	.38 ^c	.36 ^c	.19 ^b	.18 ^b
8.	Stress		.19 ^a	.22 ^b	.19 ^a	.01	.27 ^c	.54 ^c	.30 ^c	-	.75 ^c	.65 ^c	-.30 ^c
9.	Emotional Exhaustion		.10	.06	.09	-.30 ^c	.25 ^b	.41 ^c	.12	.56 ^c	-	.74 ^c	-.23 ^b
10.	Cynicism		-.11	-.03	-.12	-.23 ^b	.16	.26 ^b	.03	.46 ^c	.67 ^c	-	-.30 ^c
11.	Professional Efficacy		.06	.15	.15	-.04	.05	-.19 ^a	.33 ^c	-.17 ^a	-.25 ^b	-.37 ^c	-
<i>Subordinates</i> <i>N</i> = 135		<i>M</i>	2.87	2.40	2.67	2.19	3.28	2.56	3.01	.81	2.23	2.36	3.74
		<i>SD</i>	1.20	1.03	1.10	.92	1.00	.98	.78	.72	1.60	1.52	1.25
		α	.91	-	.89	.75	.91	.75	.83	.89	.93	.86	.86

Note. Means, standard deviations, and correlations for the leader group are presented in the upper half of the matrix, and the subordinate group presented in lower half the matrix. Stress (measured by the DASS) was rated on a 4-point scale. Emotional Exhaustion, Cynicism, and Professional Efficacy (measured by the MBI-GS) were rated on a 7-point scale. ^a $p < .05$ level, ^b $p < .01$, ^c $p < .001$ 2-tailed. ^d Expectations and initiation behaviours were self-reported for leaders and perceived for subordinates. ^e Higher scores relate to preference for greater integration between work and home roles

Assumptions requisite to multiple regression were checked and corrected for (i.e., normality, linearity, multicollinearity, homoscedasticity, outliers). Histograms of standardized residuals and normal probability plots were examined to evaluate normality, which revealed no violations of the normality assumption. Furthermore, skewness and kurtosis values confirmed this conclusion. Linearity was interpreted by assessing the p-plot of the standardized residuals, which demonstrated plotted values with no extreme deviations from the line. Through the evaluation of the predicted versus residual values scatterplot, no violations of homoscedasticity were detected (i.e., dispersion of residuals across all levels of predicted y values were evenly and randomly dispersed). Finally, multicollinearity was assessed through a correlation matrix that comprised all variables to be included in the analysis, all correlations were under .70 except for select outcome variables, which were expected to have a high correlation. Additionally, collinearity diagnostics were examined and revealed acceptable values of tolerance (i.e., above .10; Tabachnick & Fidell, 2001) and Variance Inflation Factor below 10 (Hair, Anderson, Tatham, & Black, 1995).

Winsorizing was used to minimize the influence of four univariate outliers that were detected within the demographic variables. Outliers were transformed to be within 3.29 standard deviations within the mean. Also, four multivariate outliers were found using Mahalanobis distance chi-square values and a critical chi-square cutoff of 29.588 ($p < .001$) per Tabachnick and Fidell, (2001). However, given the known sensitivity of this test and the lack of extreme deviation of the four outliers from the suggested critical chi-square value, the data was retained in the interest of unduly losing cases.

Leader Expectations/Initiation Behaviours and Well-being

Subordinates. In order to test Hypothesis 1, correlations were conducted to examine the relationships between subordinates' perceptions of leader expectations/initiation and subordinate's own well-being outcomes (see Table 1). Stress was significantly related to perceived leader ICT expectations ($r = .19, p < .05$) and initiation ($r = .22, p = .01$). That is, subordinates who felt their leader expected them to be accessible outside of work hours and who reported that their supervisor frequently contacted them outside of work hours reported higher levels of stress. However, leader expectations and initiation behaviours were not significantly related to subordinates' emotional exhaustion ($r = .10, ns$ and $r = .06, ns$ for expectations and initiation, respectively), cynicism ($r = -.11, ns$ and $r = -.03, ns$ for expectations and initiation, respectively), and professional efficacy ($r = .06, ns$ and $r = .14, ns$ for expectations and initiation, respectively). Therefore, Hypothesis 1 was partially supported.

Leaders. Similarly, correlations were conducted to examine the relationships between leader's own expectations and initiation behaviours and their own well-being outcomes (i.e., Hypothesis 2; see Table 1). As expected, leader ICT expectations were positively related to their own levels of stress ($r = .32, p < .001$), emotional exhaustion ($r = .21, p < .01$), and cynicism ($r = .17, p < .05$). However, expectations were not significantly related to professional efficacy ($r = -.08, ns$). That is, when leaders had higher expectations for subordinates to be available via ICT, this related to higher levels of stress, emotional exhaustion, and cynicism in leaders themselves. A similar pattern was found for leader ICT initiation behaviours in that they were significantly related to their own levels of stress ($r = .32, p < .001$), emotional exhaustion ($r = .28, p < .001$), and

cynicism ($r = .25, p < .001$). However, initiation was not significantly related to professional efficacy ($r = -.12, ns$). That is, leaders sending more ICT messages to subordinates during non-work hours was related to leaders own elevated levels of stress, emotional exhaustion, and cynicism. Thus, Hypothesis 2 was partially supported.

Subordinates' Work-Home Integration Preference and Well-being

I examined the relationship of subordinates' integration preference with their own wellbeing (Hypothesis 3a) as well as the moderating effect of integration preference on the relationship between supervisor expectations and initiation and subordinate wellbeing (Hypothesis 3b). I conducted a series of moderated regressions (see Table 2), following the procedure outlined by Aiken and West (1991): All predictor variables were centred (at group means) and interaction terms were created prior to regression analyses. In Step 1, predictor variables (i.e., leader ICT expectations and initiation) were entered. In Step 2, the moderator variable (either integration preference or telepressure) was entered. Finally, in Step 3 the interaction terms were entered. Eight moderated regressions were conducted (one for each dependent variable; stress, emotional exhaustion, cynicism, and professional efficacy for each of the two moderators).

When examining subordinates' stress, subordinates' perceived leader ICT expectations and initiation were entered in Step 1 and jointly accounted for 5% ($p < .05$) of the variance in stress, but neither variable accounted for unique variance in predicting stress ($\beta = .10, ns, \beta = .16, ns$, for expectations and initiation, respectively). After controlling for expectations and initiation, work-home integration preference did not account for any additional variance in stress ($\Delta R^2 = .03, ns$), contrary to Hypothesis 3a.

Table 2
Moderated Regression Results for Subordinates' Perceptions of Leader ICT Expectations on Subordinate Stress and Burnout Outcomes Moderated by Work-Home Integration Preference

	Stress		Burnout					
			Emotional Exhaustion		Cynicism		Professional Efficacy	
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1: Predictors		.05 ^a		.01		.01		.02
Leader ICT Expectations	.10		.09		-.13		-.04	
Leader ICT Initiation	.16		.01		.04		.17	
Step 2: Moderator		.00		.11 ^a		.05 ^a		.01
Leader ICT Expectations	.11		.14		-.10		-.03	
Leader ICT Initiation	.17		.08		.09		.19	
W-H Integration Preference	-.06		-.35 ^a		-.23 ^a		-.08	
Step 3: Interactions		.01		.01		.06 ^a		.03
Leader ICT Expectations	.10		.14		-.09		.00	
Leader ICT Initiation	.17		.06		.04		.17	
W-H Integration Preference	-.07		-.37 ^a		-.26 ^a		-.07	
Expectations x W-H IP	-.09		-.14		-.26 ^a		.15	
Initiation x W-H IP	.01		.12		.29 ^a		.02	
Total R^2		.06		.14 ^a		.09 ^a		.05

Note. n = 135, IP = Integration Preference, ^a $p < .05$.

The interaction terms were entered in Step 4 and accounted for 1% (*ns*) of variance in stress (Total $R^2 = .06$, *ns*), and neither term was significant ($\beta = -.09$, *ns*, $\beta = .01$, *ns*, for expectations X integration preference and initiation X integration preference, respectively).

When examining subordinates' emotional exhaustion, subordinates' perceived leader ICT expectations and initiation accounted for 1% (*ns*) of the variance in emotional exhaustion when entered in Step 1, and neither variable accounted for unique variance in predicting emotional exhaustion ($\beta = .09$, *ns*, $\beta = .01$, *ns*, for expectations and initiation, respectively). After controlling for expectations and initiation, work-home integration preference accounted for an additional 11% ($p < .001$) of variance in emotional exhaustion, resulting in a significant main effect of work-home integration preference ($\beta = -.35$, $p < .001$) in support of Hypothesis 3a. The interaction terms were entered in Step 4 and accounted for 1% (*ns*) of variance in emotional exhaustion (Total $R^2 = .14$, *ns*), and neither term was significant ($\beta = -.14$, *ns*, $\beta = .12$, *ns*, for expectations X integration preference and initiation X integration preference, respectively).

When examining subordinates' cynicism, leader ICT expectations and initiation accounted for 1% (*ns*) of the variance in cynicism when entered in Step 1, and neither variable accounted for unique variance in predicting cynicism ($\beta = -.13$, *ns*, $\beta = .04$, *ns*, for expectations and initiation, respectively). After controlling for expectations and initiation, work-home integration preference accounted for an additional 5% ($p = .01$) of variance in cynicism ($\beta = -.23$, $p = .01$), in support of Hypothesis 3a. The interaction terms were entered in Step 4 and accounted for 6% ($p = .01$) of variance in cynicism. Both interaction terms were significant ($\beta = -.26$, $p = .01$, $\beta = .29$, $p < .01$ for

expectations X integration preference and initiation X integration preference, respectively). These interactions are plotted in Figure 1 and Figure 2, respectively.

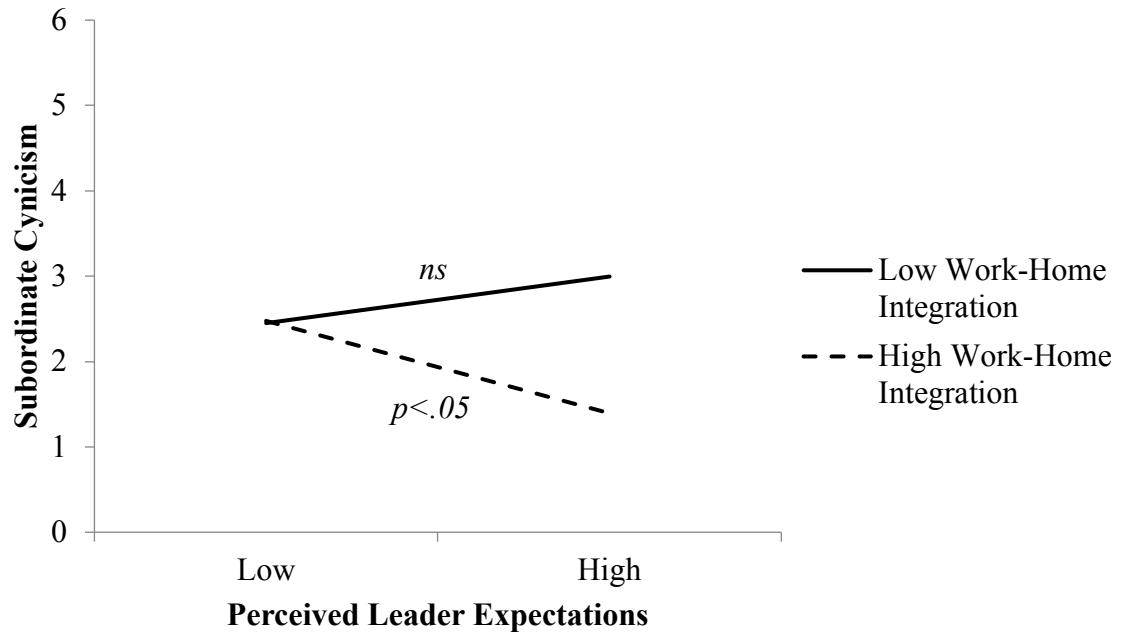


Figure 1. The moderating effect of work-home integration preference on the relationship between perceived leader ICT expectations and subordinate cynicism, with simple slope significance.

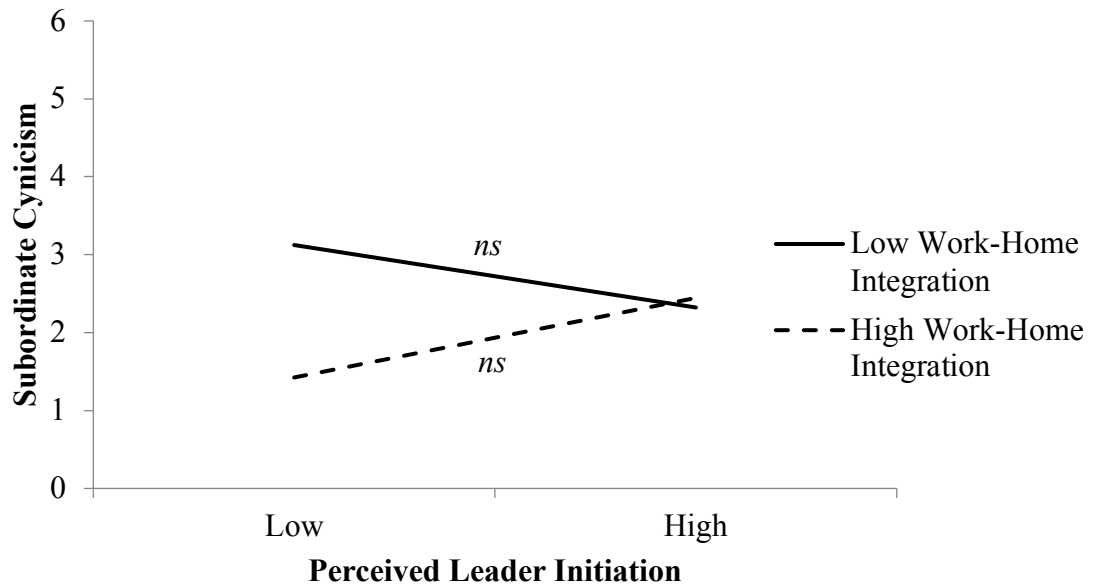


Figure 2. The moderating effect of work-home integration preference on the relationship between perceived leader ICT initiation and subordinate cynicism, with simple slope significance.

Following Aiken and West's (1991) procedure for probing significant interactions, simple slope analyses were performed. Results indicate that at high levels of integration preference there is a significant negative relationship between perceived leader ICT expectations and subordinate cynicism ($p < .05$), in partial support of Hypothesis 3b. Specially, when subordinates prefer more integration of work-home roles and leaders are perceived to expect higher availability via ICT, subordinate cynicism is decreased. However, at low levels of integration preference there is not a significant relationship between perceived leader ICT expectations and subordinate cynicism. Furthermore, with regard to leader ICT initiation, simple slope analyses determined that neither slope was significantly different from zero, meaning that this is not yet strong enough evidence to support a significant interaction between leader ICT initiation behaviours and subordinate cynicism at different levels of work-home integration preference.

When examining subordinates' professional efficacy, leader ICT expectations and initiation accounted for 2% (*ns*) of the variance in professional efficacy when entered in Step 1, and neither variable accounted for unique variance in predicting professional efficacy ($\beta = -.04$, *ns*, $\beta = .17$, *ns*, for expectations and initiation, respectively). After controlling for expectations and initiation, work-home integration preference did not account for any additional variance in professional efficacy ($\Delta R^2 = .01$, *ns*). The interaction terms were entered in Step 4 and accounted for 3% (*ns*) of variance in professional efficacy (Total $R^2 = .05$, *ns*), and neither term was significant ($\beta = -.07$, *ns*,

$\beta = .15$, *ns*, for expectations X integration preference and initiation X integration preference, respectively)⁴. Thus, both Hypotheses 3a and 3b were partially supported.

Telepressure and Well-being

Subordinates. In order to test Hypothesis 4a in the subordinate sample, correlations between telepressure, neuroticism, and workaholism were conducted. As expected, telepressure was highly correlated with neuroticism ($r = .32$, $p < .001$) and workaholism ($r = .41$, $p < .001$), supporting Hypothesis 4a.

Hierarchical regressions were conducted to examine the relationship of telepressure with subordinate stress and burnout, after controlling for neuroticism and workaholism (i.e., Hypothesis 4b; see Table 3). For the subordinate sample, neuroticism and workaholism jointly accounted for 34% ($p < .001$) of the variance in stress scores ($\beta = .51$, $p < .001$, $\beta = .21$, $p < .01$, for neuroticism and workaholism, respectively); 17% ($p < .001$) of the variance in emotional exhaustion ($\beta = .41$, $p < .001$, $\beta = .05$, *ns*, for neuroticism and workaholism, respectively); 7% ($p = .01$) of the variance in cynicism ($\beta = .26$, $p < .01$, $\beta = -.01$, *ns*, for neuroticism and workaholism, respectively); and 17% ($p < .001$) of the variance in professional efficacy ($\beta = -.26$, $p < .01$, $\beta = .37$, $p < .001$, for neuroticism and workaholism, respectively). When entered in Step 2, telepressure did not account for additional variance in stress ($\Delta R^2 = .001$, *ns*), emotional exhaustion ($\Delta R^2 = .01$, *ns*), cynicism ($\Delta R^2 = .01$, *ns*) or professional efficacy ($\Delta R^2 = .001$, *ns*) for subordinates. Therefore, Hypothesis 4b was not supported in the subordinate sample.

⁴ Patterns for all dependent variables (i.e., stress, emotional exhaustion, cynicism, and professional efficacy) did not change after controlling for (1) working hours from home *during* work hours (i.e., teleworking; part time or full time), (2) boundary control, (3) predictable time-off, or (4) work identity.

Table 3.
Regression Results for Telepressure on Subordinate Stress and Burnout Outcomes, Controlling for Neuroticism and Workaholism

	Stress		Burnout					
			Emotional Exhaustion		Cynicism		Professional Efficacy	
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1:		.34 ^a		.17 ^a		.07 ^a		.17 ^a
Neuroticism	.51 ^a		.41 ^a		.26 ^a		-.26 ^a	
Workaholism	.21 ^a		.05		-.01		.37 ^a	
Step 2:		.00		.01		.01		.00
Neuroticism	.50 ^a		.37		.23 ^a		-.25 ^a	
Workaholism	.20 ^a		.00		-.05		.38 ^a	
Telepressure	.03		.13		.10		-.03	
Total R^2		.34 ^a		.19 ^a		.07 ^a		.17 ^a

Note. n = 135, ^a p < .05.

Leaders. In order to test Hypothesis 4a in the leader sample, correlations between telepressure, neuroticism, and workaholism were conducted. As expected, telepressure was highly correlated with neuroticism ($r = .32, p < .001$) and workaholism ($r = .47, p < .001$), supporting Hypothesis 4a.

Hierarchical regressions were conducted to examine the relationship of telepressure with leader stress and burnout, after controlling for neuroticism and workaholism (i.e., Hypothesis 4b; see Table 4). For the leader sample, neuroticism and workaholism jointly accounted for 39% ($p < .001$) of the variance in stress scores ($\beta = .50, p < .001, \beta = .31, p < .001$, for neuroticism and workaholism, respectively); 41% ($p < .001$) of the variance in emotional exhaustion ($\beta = .54, p < .001, \beta = .28, p < .001$ for neuroticism and workaholism, respectively); 26% ($p < .001$) of the variance in cynicism ($\beta = .48, p < .001, \beta = .12, ns$, for neuroticism and workaholism, respectively); and 21% ($p < .001$) of the variance in professional efficacy ($\beta = -.42, p < .001, \beta = .24, p < .001$, for neuroticism and workaholism, respectively). When entered in Step 2, telepressure accounted for an additional 2% of the variance in stress ($\beta = .16, p < .05$) and 4% of the variance in cynicism ($\beta = .23, p < .01$), but did not account for any additional variance in emotional exhaustion ($\Delta R^2 = .01, ns$) or professional efficacy ($\Delta R^2 = .01, ns$) for leaders. Therefore, Hypothesis 4b was partially supported in the leader sample.

Moderating Role of Telepressure on Subordinate Well-being

In order to examine Hypothesis 5 (i.e., direct and moderated effect of telepressure after controlling for expectations/initiation), I conducted a moderated regression (see Table 5). In Step 1, leader ICT expectations and initiation jointly accounted for 5% ($p < .05$) of the variance in the stress scores, but neither variable accounted for unique

Table 4.
Regression Results for Telepressure on Leader Stress and Burnout Outcomes, Controlling for Neuroticism and Workaholism

	Stress		Burnout					
			Emotional Exhaustion		Cynicism		Professional Efficacy	
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1:		.39 ^a		.41 ^a		.26 ^a		.21 ^a
Neuroticism	.50 ^a		.54 ^a		.48 ^a		-.42 ^a	
Workaholism	.31 ^a		.28 ^a		.12		.24 ^a	
Step 2:		.02 ^a		.01		.04 ^a		.01
Neuroticism	.46 ^a		.51 ^a		.42 ^a		-.39 ^a	
Workaholism	.24 ^a		.24 ^a		.02		.30 ^a	
Telepressure	.16 ^a		.11		.23 ^a		-.13	
Total R^2		.41 ^a		.42 ^a		.30 ^a		.22 ^a

Note. n = 194, ^a p < .05.

Table 5.
Moderated Regression Results for Subordinates' Perceptions of Leader ICT Expectations on Subordinate Stress and Burnout Outcomes Moderated by Telepressure

	Stress		Burnout					
			Emotional Exhaustion		Cynicism		Professional Efficacy	
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1: Predictors		.05 ^a		.01		.01		.02
Leader ICT Expectations	.10		.09		-.13		-.04	
Leader ICT Initiation	.16		.01		.04		.17	
Step 2: Moderator		.05 ^a		.06 ^a		.03 ^a		.00
Leader ICT Expectations	.11		.11		-.12		-.04	
Leader ICT Initiation	.08		-.07		-.01		.17	
Telepressure	.24 ^a		.26 ^a		.18 ^a		.00	
Step 3: Interactions		.01		.00		.01		.00
Leader ICT Expectations	.11		.11		-.12		-.05	
Leader ICT Initiation	.08		-.08		-.01		.19	
Telepressure	.24 ^a		.27 ^a		.17		.00	
Expectations x Telepressure	.08		.03		-.09		.04	
Initiation x Telepressure	-.01		.01		.00		-.07	
Total R^2		.11 ^a		.07		.05		.03

Note. n = 135, ^a p < .05.

variance in predicting stress ($\beta = .10, ns$, $\beta = .16, ns$, for expectations and initiation, respectively). After controlling for expectations and initiation, telepressure accounted for an additional 5% of variance in stress ($\beta = .24, p < .01$). The interaction terms were entered in Step 4 and accounted for 1% (*ns*) of variance in stress (Total $R^2 = .11, ns$), and neither term was significant ($\beta = .08, ns$, $\beta = -.01, ns$, for expectations X telepressure and initiation X telepressure, respectively).

When examining subordinates' level of emotional exhaustion, leader ICT expectations and initiation accounted for 1% (*ns*) of the variance in emotional exhaustion when entered in Step 1, but neither variable accounted for unique variance in predicting emotional exhaustion ($\beta = .09, ns$, $\beta = .01, ns$, for expectations and initiation, respectively). After controlling for expectations and initiation, telepressure accounted for an additional 6% ($p < .01$) of variance in emotional exhaustion ($\beta = .26, p < .01$). The interaction terms were entered in Step 4 and did not account for additional variance in emotional exhaustion ($\Delta R^2 = .01, ns$; Total $R^2 = .07, ns$), and neither term was significant ($\beta = .03, ns$, $\beta = .03, ns$, for expectations X telepressure and initiation X telepressure, respectively).

When examining subordinates' level of cynicism, leader ICT expectations and initiation accounted for 1% (*ns*) of the variance in cynicism when entered in Step 1, but neither variable accounted for unique variance in predicting cynicism ($\beta = -.13, ns$, $\beta = .04, ns$, for expectations and initiation, respectively). After controlling for expectations and initiation, telepressure accounted for an additional 3% ($p < .05$) of variance in cynicism, and there was a significant main effect of telepressure in predicting cynicism ($\beta = .18, p = .05$). The interaction terms were entered in Step 4 and did not account for

additional variance in cynicism (Total $R^2 = .05$, *ns*), and neither term was significant ($\beta = -.09$, *ns*, $\beta = .00$, *ns*, for expectations X telepressure and initiation X telepressure, respectively).

When predicting subordinates' level of professional efficacy, leader ICT expectations and initiation accounted for 2% (*ns*) of the variance in professional efficacy when entered in Step 1, but neither variable accounted for unique variance in predicting professional efficacy ($\beta = -.04$, *ns*, $\beta = .17$, *ns*, for expectations and initiation, respectively). After controlling for expectations/ initiation, telepressure did not account for additional variance in professional efficacy ($\Delta R^2 = .00$, *ns*), contrary to Hypothesis 4. The interaction terms were entered in Step 4 and did not account for additional variance in professional efficacy (Total $R^2 = .03$, *ns*), and neither term was significant ($\beta = .04$, *ns*, $\beta = -.07$, *ns*, for expectations X telepressure and initiation X telepressure, respectively). Thus, Hypothesis 5a was partially supported and 5b was not supported.

Discussion

In order to better understand the paradoxical effects of work-related ICT use on well-being and the potential influence of leader behaviours, the current study focused on leaders' expectations for subordinates to use ICT during non-work hours and leaders' ICT initiating behaviours (the extent to which they send emails, voicemails, and texts after hours). I examined the relationships among expectations and initiation behaviours with stress and burnout outcomes of both subordinates and the leaders themselves. Two key factors (integration preference and telepressure) that influence ICT use have been identified in previous research as influencing stress responses (Barber & Santuzzi, 2015; Derks et al., 2015). Thus, the current study also examined how preferences for integration

and levels of telepressure were related to stress and burnout, and the extent to which these factors may moderate the relationships between ICT expectations/initiation and worker outcomes.

Leader ICT Expectations/Behaviour and Stress/Burnout Outcomes

Results indicate that subordinates who reported that their leader expected them to be available after hours and that their leaders frequently initiated contact via ICT outside of work hours reported higher levels of stress. However, these perceived leader expectations and initiation behaviours were not related to subordinate burnout. These results could mean that subordinates' experiences of stress due to perceived availability expectations are fleeting and non-pervasive, such that the stress only lasts for a short period of time and does not translate to the more long-term feelings of emotional exhaustion, cynicism, and diminished professional efficacy – which characterize burnout. Future research should continue to unpack the underlying perceptions of ICT use during non-work hours. It is possible that the more short-term nature of subordinate stress in association with availability expectations may not be as pervasive as other work stressors because responding or checking messages after-hours may be perceived as 'part of the job' or helpful in avoiding inbox overload the next workday, a viewpoint noted by Barley, Meyerson, and Grodal (2011). Furthermore, given that majority of workers may prefer integration of work-home boundaries (Bulger et al., 2007), it could be that work interruptions during non-work hours (i.e. receiving an email from your boss during the evening) is not, on average, perceived overly negative, thus not resulting in a long-term stress response trend (i.e., burnout). Future longitudinal studies are needed that focus on the role of boundary integration preference and outcomes of stress and burnout so that we

can understand the perceptions of ICT interruptions and expectations over time and the associated effect of preference for integration over segmentation of work-home roles.

What are the underlying motivations for subordinates' checking or responding to emails afterhours? How exactly are after-hours emails from leaders perceived – as an over-and-above demand or as a typical role requirement? How long does the stress subordinates feel in relation to after-hours ICT engagement last? Where is the tipping point for after-hours ICT use, when (if ever) does it become a cause of burnout in subordinates? The answers to these questions could serve to advance our understanding of subordinate stress responses in relation to ICT use and how it is perceived as a stressor or a resource in practice.

Interestingly, there were key differences between leaders and subordinates in terms of ICT use and stress/burnout outcomes. Results show that when leaders had higher expectations for subordinates to be available via ICT, this related to higher levels of stress, emotional exhaustion, and cynicism in leaders themselves. A similar pattern was found when leaders reported higher ICT initiation behaviours, such that sending more ICT messages to subordinates during non-work hours was related to leaders own elevated levels of stress, emotional exhaustion, and cynicism. Future studies are needed to understand how these relationship play out over time, and specifically the directionality of these effects. For example, do higher leader expectations for others result in more experiences of stress and burnout in themselves? Could higher expectations for subordinates mirror high standards set by leaders for themselves to be available and responsive with respect to ICT during non-work hours, thus relating to reactions of higher stress and burnout? Or could it be that workload or work pressures play a role here, such

that leaders experience more stress and burnout due to more responsibility or duties, and thus expect their subordinates to also be available to pick up the slack, even outside of typical working hours? Understanding the directionality here is key in unpacking why there are differences between leaders and subordinates stress outcomes in relation to ICT use and expectations, thus longitudinal research is required. Additionally, leaders are more senior players in organizations and intrinsically their roles have unique characteristics (e.g., pressures from both above and below, responsibilities that include job tasks *and* people management), thus other variables that are characteristic of differences in seniority such as workload or perceived pressure should be examined in this comparison between leaders and subordinates and ICT expectations, as they could reveal underlying mechanisms that drive these relationships. Finally, the leader and subordinate samples differed significantly in terms of gender, employment status, tenure, hours worked per week, and children at home under 18. Thus future studies are encouraged to examine these demographic variables when comparing leaders and subordinates, and either provide theory as to how these differences might impact ICT use and stress/burnout, or control for their effect. These demographic differences may limit the ability to make inferences about the differences between leaders and subordinates on ICT use and stress/burnout outcomes. However, I conducted post-hoc analyses on the regression analyses and controlled for the key demographic variables, and the direct and indirect effects did not change.

Integration Preference and Stress/Burnout Outcomes

Another interesting finding was that subordinates who preferred to integrate their work reported significantly less emotional exhaustion and cynicism, compared to those

who preferred less boundary integration. However there was no effect of integration preference on stress or professional efficacy. Furthermore, there was evidence to support that the extent that subordinates prefer to integrate their work and home domains moderates the relationship between leader expectations and cynicism, such that cynicism is lower when there is both high expectations and high work-home integration preference. There was also partial evidence suggesting that subordinate integration preference moderates the relationship between leader ICT initiation and subordinate cynicism. However, although there was a significant interaction, both simple slopes were non-significant; Thus, there may not be sufficient evidence to draw conclusions about integration preference as a moderator. Future research is encouraged here to understand how these relationships play out over time. In understanding the directionality of these relationships, we will be better able to unpack the role of integration preference in stress responses as they relate to leader expectations and behaviours. For example, it could be that preference for low integration (i.e., segmentation) is a coping mechanism, such that individuals who are more cynical may seek less work-home integration, and are able to do have this separation preference when ICT initiation behaviour is low. This situation characterized integration preference as more of a state variable; It could be that integration preference is more stable over time as well (i.e., a trait variable), which also begs for future longitudinal research to properly grasp the role of integration preference and its effect on well-being outcomes.

Telepressure and Stress/Burnout Outcomes

One of the goals of this research was to disentangle the telepressure construct from the similar constructs of neuroticism and workaholism. As expected, all three of

these constructs were related. In the subordinate sample, telepressure was not associated with stress or burnout over and above neuroticism and workaholism. However, in the leader sample, telepressure was associated with leaders' own stress and cynicism, but not with emotional exhaustion or professional efficacy. These results could suggest that telepressure is mostly a symptom of neuroticism and/or workaholism, such that workers with higher levels of neuroticism and/or workaholism also have the tendency to become preoccupied with and feel an urge to respond to ICT messages. Alternatively, given that telepressure had a direct effect in the leader sample, perhaps leaders feel more general work pressure to be available and responsive to ICT messages, as this behaviour could be seen as being more supportive to subordinates or more engaged/diligent for future promotions. Also, it could be that the telepressure trends are more difficult to detect and with a more robust sample (the leader sample was larger than the subordinate sample), they are illuminated. Further research is needed to disentangle the state versus trait definitions of the telepressure construct and its distinctiveness from other personality variables in predicting well-being outcomes. Also, replications are encouraged in more robust samples in order to fully comprehend the differences between leader and subordinate outcomes.

Interestingly, subordinates who experienced higher levels of telepressure reported significantly more stress, emotional exhaustion, and cynicism, compared to those who experienced less telepressure. However, there was no evidence found to support a moderating role of telepressure in the relationship between leader ICT expectations/initiation and subordinate stress/burnout outcomes. Future research may explore whether neuroticism and/or workaholism, which jointly accounted for significant

variance in stress/burnout outcomes over and above telepressure, may instead moderate the relationship between leader expectations/initiation and subordinate well-being outcomes. That is, do these constructs exacerbate the impact of expectations on well-being? Moreover, in clarifying the construct of telepressure and its relationship with stress and burnout, future studies may explore other predictors that could result in a different trend (e.g., actual leader ICT expectations with matched data, organizational ICT norms). Finally, in line with Cambier et al. (2019), there may be an indirect effect of telepressure on well-being outcomes mediated by actual ICT use after-hours. Therefore, future research is encouraged to examine the possible indirect effects of telepressure on stress and burnout mediated by ICT use.

Practical Implications

Although future research is needed to understand the directionality and generalizability of the results above, there are some implications we can draw from these results in practice. Because the correlations between stress and expectations/initiation were moderate, but significant, leaders may think about how their ICT behaviours and expectations impact their own subordinates. When leading teams and individuals, leaders can be intentional about creating and communicating expectations for after-hours ICT use and availability. For example, leaders may utilize tools to clearly and explicitly relay their expectations for subordinates, such as informative email signatures that include a message like: “My working hours may not be the same as your working hours. Please know that I do not expect a response right away, unless otherwise specified”. This open communication of expectations is likely to reduce ambiguity in perceived expectations between leaders and subordinates and therefore, may reduce potential stress responses in

subordinates who feel the expectation is there to be available or who feel the need respond to messages right away.

Also, results indicated that leader's own expectations for ICT-facilitated accessibility and leader ICT initiation behaviour were related to their own stress, emotional exhaustion, and cynicism. Accordingly, leaders may consider addressing their own recovery needs and work-life blend, which could help reduce the negative well-being outcomes that they experience in relation to their ICT expectations and initiation behaviours. However, because the study is cross sectional, they may be using ICT (expectations and behaviours) as a tool to reduce their workload (and resultant stress and burnout levels). That is, leaders may be experiencing more stress and burnout as a result of their position (e.g., potentially higher workload, more pressure), and thus may be using ICT and have expectations of others to use ICT after-hours to offset the work that is on their plate. Thus, this could signal the need to address workload, expectations, and ICT norms at the organizational- or team-level.

Additionally, all workers could consider individual boundary preferences when initiating communication outside of work hours, or perhaps utilize applications like Boomerang, which delay email communications from sending until a pre-specified time. These types of applications not only fulfill the needs of the initiator (e.g., completing a task, sending a message when it's convenient for them), but they also by-pass the potential for the receiver to feel the need to respond when it's outside of their working hours.

Limitations and Future Research Directions

Although this study contributes to our understanding of the relationship between ICT use/expectations and well-being, it is not without limitations. I examined two separate samples of workers (leaders and subordinates) to better understand the way ICT expectations and behaviour can impact worker stress and burnout. Future research should use matched leader and subordinate data to more accurately examine the influence of leader ICT expectations and initiation on subordinate levels of stress and burnout. Using matched data, future studies can examine whether actual leader expectations and subordinations perceptions of their leader's expectations are similar, and whether *actual* leader expectations of availability and responses outside of work hours have a differential effect compared to *perceived* expectations.

Results of this study are based on cross-sectional data, restricting the interpretability of casual effects. For instance, it is possible that symptoms of burnout, such as cynicism, may inform one's integration preference, such that workers who feel cynical about their job may not want to further integrate their work into their personal life. Thus, work-home role segmentation may be used a coping mechanism against symptoms of burnout. Moreover, some constructs may be particularly sensitive to measurement over time and to time-lags between measurements. For example, telepressure has differing effects on recovery at the day-level, compared to a month-level approach (Cambier et al., 2019). Therefore, future research should adopt longitudinal designs to investigate the impact of time on the relationship between ICT expectations and initiation during non-work hours on stress and burnout outcomes, as well as with other related variables (e.g., telepressure), which would be particularly valuable when

also using a matched leader-subordinate sample to unpack the role of real versus perceived expectations and initiation behaviour.

A third limitation of this study is its reliance on self-reports, which may raise common method variance (CMV) concerns. However, CMV was tested using Harman's single-factor test to check whether one single factor emerged from an EFA that includes all items from every construct of interest. A principal components analysis was run and the unrotated factor solution returned 11 factors with Eigenvalues over 1, which accounted for 73% of the variance, and the scree plot also suggested 11 factors. Given that a single factor accounting for majority of the covariance among the measures did not emerge, CMV is not an issue of concern in this study (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Tehseen, Ramayah, & Sajilan, 2017). Although self-report methodology is in line with most studies on this topic (Gadeyne et al., 2018), it would be valuable for future research to integrate self-report data with more objective measures of ICT use, such as the actual number of ICT messages received or initiated during non-work hours.

Finally, other variables may serve to broaden our understanding of ICT use, expectations, and well-being outcomes. Following the call from Day, Barber, and Tonet (2019), future research may build upon self-determination theory in relation to ICT use and expectations. More specifically, how can ICT use for work purposes satisfy or neglect the needs of relatedness and productivity, in addition to autonomy which was the focus of this study. Moreover, in disentangling the complicated relationship between ICT use and expectations and worker outcomes, future studies may consider controlling for industry, caregiving demands, attitude toward ICT, the instance of organization-provided

devices, and workload/job demands. Also, future studies may investigate other predictors, such as broader organizational norms, and other moderators of the relationship between ICT use/expectations and stress and burnout, such as engagement and motivation.

Conclusion

Having a nuanced understanding of the influence of leaders' ICT expectations and behaviours on stress and well-being is key to helping organizations be proactive in supporting workers' individual differences and preferences, and fostering healthy and productive workplaces. Results of this study indicated that subordinates who felt that they had higher leader expectations for availability via ICT and higher leader initiation of ICT messages outside of work hours also reported higher stress (but not burnout).

Interestingly, when leaders reported they expected their subordinates to use ICT outside of work and when they initiated after-hours ICT use, they also reported higher levels of stress and burnout. Furthermore, results supported that higher preference for integration can have a buffering effect when it comes to higher perceived leader expectations and subordinate cynicism. Finally, there was a significant overlap of telepressure with neuroticism and workaholism, such that telepressure failed to account for any unique variance in any of the subordinate wellbeing, but did account for additional variance in leaders' stress and cynicism. Future research is needed to continue to unpack the role of leader expectations and behaviour related to ICT over time and their effect on well-being outcomes. This study contributes to our conceptualization of the factors that influence whether ICT is perceived as demand or a resource among employees. Moreover, these results help to inform best practices in accommodating individual differences and preferences, which can buffer worker stress as a result of work-related ICT demands.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park: Sage.
- Arnold, K. A., Turner, N., Barling, J., Kelloway, E. K., & McKee, M. C. (2007). Transformational leadership and psychological well-being: The mediating role of meaningful work. *Journal of Occupational Health Psychology, 12*(3), 193-203. doi: 10.1037/1076-8998.12.3.193
- Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management Review, 25*(3), 472-491. doi: 10.5465/AMR.2000.3363315
- Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly, 36*(3), 421-458.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology, 22*(3), 309-328. doi: 10.1108/02683940710733115
- Bamberger, P. A., & Bacharach, S. B. (2006). Abusive supervision and subordinate problem drinking: Taking resistance, stress and subordinate personality into account. *Human Relations, 59*(6), 723-752. doi: 10.1177/0018726706066852
- Barber, L. K., & Santuzzi, A. M. (2015). Please respond ASAP: Workplace telepressure and employee recovery. *Journal of Occupational Health Psychology, 20*(2), 172-189. doi: 10.1037/a0038278

- Barber, L. K., & Santuzzi, A. M. (2017). Telepressure and college student employment: The costs of staying connected across social contexts. *Stress and Health, 33*(1), 14-23. doi: 10.1002/smi.2668
- Barley, S.R., Meyerson, D.E., & Grodal, S. (2011). Email as a source and symbol of stress. *Organization Science, 22*, 887–906. doi: 10.1287/orsc.1100.0573
- Bass, B. M., & Avolio, B. J. (1993). Transformational leadership and organizational culture. *Public Administration Quarterly, 112*-121.
- Bulger, C. A., Matthews, R. A., & Hoffman, M. E. (2007). Work and personal life boundary management: boundary strength, work/personal life balance, and the segmentation integration continuum. *Journal of Occupational Health Psychology, 12*(4), 365-375. doi: 10.1037/1076-8998.12.4.365
- Cambier, R., Derks, D., & Vlerick, P. (2019). Detachment from Work: A Diary Study on Telepressure, Smartphone Use and Empathy. *Psychologica Belgica, 59*(1), 227–245. doi: 10.5334/pb.477.
- Day, A., Barber, L., & Tonet, J. (2019). Information technology and employee well-being: Understanding the iParadox Triad at work. In R. Landers (Ed.), *Cambridge Handbook of Technology and Employee Behavior*. Cambridge University Press.
- Day, A., Paquet, S., Scott, N., & Hambley, L. (2012). Perceived information and communication technology (ICT) demands on employee outcomes: The moderating effect of organizational ICT support. *Journal of Occupational Health Psychology, 17*, 473-491. doi: 10.1037/a0029837

- Day, A., Scott, N., & Kelloway, E. K. (2010). Information and communication technology: Implications for job stress and employee well-being. In P. L. Perrewé & D. C. Ganster (Eds.), *New developments in theoretical and conceptual approaches to job stress, Volume 8* (pp. 317-350). Emerald Group Publishing Limited. doi: 10.1108/S1479-3555(2010)0000008011
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology, 86*, 499 – 512. doi: 10.1037/0021-9010.86.3.499
- Derks, D., & Bakker, A. B. (2010). The impact of e-mail communication on organizational life. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 4*(1). Retrieved from <https://cyberpsychology.eu/article/view/4233/3277>
- Derks, D., van Duin, D., Tims, M., & Bakker, A. B. (2015). Smartphone use and work–home interference: The moderating role of social norms and employee work engagement. *Journal of Occupational and Organizational Psychology, 88*(1), 155-177. doi: 10.1111/joop.12083
- Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The mini-IPIP scales: tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment, 18*(2), 192-203. doi: 10.1037/1040-3590.18.2.192
- Field, A. (2009). *Discovering statistics using IBM SPSS statistics* (3rd ed.). Thousand Oaks, CA: Sage Publications Inc.
- Fulk, J., Schmitz, J., & Schwarz, D. (1992). The dynamics of context-behaviour interactions in computer-mediated communication. In M. Lea (Ed.), *Contexts of*

computer-mediated communication (pp. 7-29). New York and London: Harvester Wheatsheaf.

Gadeyne, N., Verbruggen, M., Delanoeije, J., & De Cooman, R. (2018). All wired, all tired? Work-related ICT-use outside work hours and work-to-home conflict: The role of integration preference, integration norms and work demands. *Journal of Vocational Behavior, 107*, 86-99. doi: 10.1016/j.jvb.2018.03.008

Grawitch, M. J., Werth, P. M., Palmer, S. N., Erb, K. R., & Lavigne, K. N. (2017). Self-imposed pressure or organizational norms? Further examination of the construct of workplace telepressure. *Stress and Health, 1-14*. doi: 10.1002/smi.2792

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis with readings*. Englewood Cliff, NJ: Prentice-Hall.

Hogg, M. A., and Levine, J. M. (2010). *Encyclopedia of Group Processes and Intergroup Relations*. New Delhi: SAGE Publications.

Kanter, R. M. (1977). *Work and family in the United States: A critical review and agenda for research and policy*. New York: Russell Sage Foundation.

Kelloway, E. K., & Barling, J. (2010). Leadership development as an intervention in occupational health psychology. *Work & Stress, 24*(3), 260-279. doi: 10.1080/02678373.2010.518441

Kossek, E. E., & Lautsch, B. A. (2012). Work–family boundary management styles in organizations: A cross-level model. *Organizational Psychology Review, 2*(2), 152-171. doi: 10.1177/2041386611436264

- Kossek, E. E., Ruderman, M. N., Braddy, P. W., & Hannum, K. M. (2012). Work–nonwork boundary management profiles: A person-centered approach. *Journal of Vocational Behavior, 81*(1), 112-128. doi: 10.1016/j.jvb.2012.04.003
- Kreiner, G. E. (2006). Consequences of work-home segmentation or integration: A person-environment fit perspective. *Journal of Organizational Behavior, 27*(4), 485-507. doi: 10.1002/job.386
- Landers, R. N., & Behrend, T. S. (2015). An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 8*(2), 142–164. doi: 10.1017/iop.2015.13
- Lazarus, R. S., & Folkman, S. (1984). Coping and adaptation. In W.D. Gentry (Ed.), *The handbook of behavioral medicine* (pp. 282-325). New York: Guilford.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy, 33*(3), 335-343. doi: 10.1016/0005-7967(94)00075-U
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory Manual*, 3rd ed. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*, 397-422.
- Mazmanian, M., Orlikowski, W. J., & Yates, J. (2013). The autonomy paradox: The implications of mobile email devices for knowledge professionals. *Organization Science, 24*, 1337-1357. doi: 10.1287/orsc.1120.0806

- Middleton, C. A. (2007). Illusions of balance and control in an always-on environment: A case, study of BlackBerry users. *Continuum: Journal of Media & Cultural Studies*, 21, 165–178. doi:10.1080/10304310701268695
- O’Driscoll, M. P., Brough, P., Timms, C., & Sawang, S. (2010). Engagement with information and communication technology and psychological well-being. In P. L. Perrewé & D. C. Ganster (Eds.), *New developments in theoretical and conceptual approaches to job stress, Volume 8* (pp. 269-316). Emerald Group Publishing Limited.
- Offermann, L. R., & Hellmann, P. S. (1996). Leadership behavior and subordinate stress: A 360 –degree view. *Journal of Occupational Health Psychology*, 1(4), 382-390. doi: 10.1037/1076-8998.1.4.382
- Orlikowski, W. J. (1992). The duality of technology: Rethinking the concept of technology in organizations. *Organizational Science*, 3, 398–427.
- Orlikowski, W. J. (2000). Using technology and constituting structures: A practice lens for studying technology in organizations. *Organizational Science*, 11, 404–428.
- Park, Y., Fritz, C., & Jex, S. M. (2011). Relationships between work-home segmentation and psychological detachment from work: The role of communication technology use at home. *Journal of Occupational Health Psychology*, 16, 457– 467. doi:10.1037/a0023594
- Perlow, L. (2012). *Sleeping with your Smartphone: How to Break the 24/7 Habit and Change the Way You Work*. Boston, MA: Harvard Business Review Press.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and

recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. doi:
10.1037/0021-9010.88.5.879

Schaufeli, W. B., Shimazu, A., & Taris, T. W. (2009). Being driven to work excessively hard: The evaluation of a two-factor measure of workaholism in the Netherlands and Japan. *Cross-Cultural Research*, 43(4), 320-348. doi:
10.1177/1069397109337239

Sonnentag, S., Binnewies, C., & Mojza, E. J. (2010). Staying well and engaged when demands are high: The role of psychological detachment. *Journal of Applied Psychology*, 95(5), 965-976.

Sonnentag, S., & Fritz, C. (2007). The Recovery Experience Questionnaire: development and validation of a measure for assessing recuperation and unwinding from work. *Journal of Occupational Health Psychology*, 12(3), 204-221. doi:
10.1037/1076-8998.12.3.204

Sonnentag, S., & Fritz, C. (2015). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior*, 36, 72-103. doi: 10.1002/job.1924

Tabachnick, B. G., & Fidell, L. S. (2001). Principal components and factor analysis. *Using Multivariate Statistics*, 4, 582-633.

Tehseen, S., Ramayah, T., & Sajilan, S. (2017). Testing and controlling for common method variance: A review of available methods. *Journal of Management Sciences*, 4(2), 142-168. doi: 10.20547/jms.2014.1704202

Ter Hoeven, C. L., van Zoonen, W., & Fonner, K. L. (2016). The practical paradox of technology: The influence of communication technology use on employee

burnout and engagement. *Communication Monographs*, 83(2), 239-263. doi:
10.1080/03637751.2015.1133920

Wang, A. (2017). France gives employees 'right to disconnect' from work emails. *The Star*. Retrieved from <https://www.thestar.com/news/world/2017/01/02/france-gives-employees-right-to-disconnect-from-work-emails.html>