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Social media induced fear of missing out (FoMO) and phubbing: Behavioural, relational and psychological outcomes

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ABSTRACT

The penetration of smartphones and the subsequent social media use in modern workplaces have drawn scholars' attention towards studying their influence on employees. This is a nascent yet critical field of study because initial inquiries have confirmed the significant adverse implications of smartphone and social media use for employee well-being and productivity. Acknowledging the need to better explicate the consequences of the so-called 'dark side' of social media use at work, we examine the association of FoMO and phubbing with both psychological (i.e. work exhaustion and creativity) and relational (i.e. workplace incivility) employee outcomes. We tested our proposed hypotheses, which rest on the theoretical tripod of the theory of compensatory Internet use, the limited capacity model and regulatory focus theory, through structural equation modelling (SEM) of data collected from 243 working professionals in the United States (US). The results suggest that FoMO has a positive association with phubbing, which, in turn, is positively associated with both psychological and relational responses. In addition, our analysis reveals the moderation effect of promotion focus on the association between phubbing and creativity. In comparison, we observe no moderation effect for prevention focus on any of the proposed associations. Our findings provide new insights into the impact of smartphone and social media use on employees and offer important implications for theory and practice.

1. Introduction

The intensive proliferation of information and communication technologies (ICT) over the past decade has altered social and communication norms worldwide leading scholars to discuss the negative effects arising from this event. Turel et al. (2019) refer to this phenomenon as the 'dark side of digitisation', which they argue has blurred the boundaries of individuals' social, personal and professional use. Consequently, scholars have exhibited increasing interest in the ways in which these technologies influence employee behaviour, especially concerning phenomena associated with the dark side of social media, such as the fear of missing out (FoMO; Budnick et al., 2020; Tandon et al., 2020), and smartphones, such as phubbing (Al-Saggaf and Macculloch, 2019; Roberts and David, 2020). Recent studies have already suggested that these phenomena can influence work-related outcomes

for employees who engage in personal social media use during work hours (Chu, 2020; Karimikia et al., 2020). However, the extant research presents divergent views regarding the nature of these associations. On the one hand, some scholars have asserted that the use of social media and smartphones can improve work performance (Cao et al., 2016; Chu, 2020). On the other hand, others have implicated such usage in adverse outcomes such as performance decrement (Budnick et al., 2020; Elhai et al., 2020) and end-of-day exhaustion (Derks et al., 2021). To resolve the confusion created by such disparate findings, scholars have indicated the critical need to conduct more nuanced investigations of the ways in which employees' smartphone and social media use influences their work-related responses and tasks, including their work performance (Roberts and David, 2020). This is especially critical in the current environment wherein the ongoing coronavirus (COVID-19) lockdowns have caused individuals to rely on online platforms to

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maintain perceived connectivity with their professional and personal social groups.

Although this field of inquiry's nascence accounts, to some extent, for the conflicting and limited nature of the extant findings, a deeper review indicates five specific limitations that constrain the underlying literature. First, although multiple studies have examined FoMO, the existing scholarship has only recently begun to examine the phenomenon of phubbing (Chotpitayasunondh and Douglas, 2018a; Kuss and Griffiths, 2017). The majority of existing studies on phubbing have, moreover, focused on examining this phenomenon in the context of relationships amongst peers, such as romantic partners or friends in social settings (e.g. Abeele et al., 2019). Meanwhile, in the context of the workplace, prior research has mainly studied phubbing amongst individuals belonging to different relationship groups—for example, a supervisor or 'boss' and his or her employees (e.g. Roberts and David, 2017). In contrast, the extant literature has offered a much more limited understanding of the ways in which phubbing influences employee responses within the same relationship group—for example, amongst peer colleagues. According to Chotpitayasunondh and Douglas (2016), phubbing has the potential to become a cyclical normative behaviour because it predicts the likely extent of being phubbed, which can lead the phubbed individual to experience negative emotions. In our view, the possibility that phubbing can create a 'ripple effect' in the workplace carries significant negative connotations for employee performance and workplace relationships. We argue that the limited understanding of phubbing's effects on employees' responses is a significant knowledge gap that urgently requires investigation due to the deep penetration of smartphones into the personal and professional aspects of human lives (Elhai et al., 2017; Kemp, 2020).

Second, most studies have investigated the work-related consequences of problematic smartphone use and social media use separately. Only limited studies concurrently examine smartphone and social media-related problematic behaviour (e.g. Balta et al., 2020; Franchina et al., 2018). We contend that this is a significant gap because the nature of daily life demonstrates that it is precisely the former—ready access to easy-to-use smartphones—that creates the possibility of the later—problematic social media use—and the consequent dark side manifestations. Several reports substantiate our observation. For instance, a recent report on Facebook users in the United States (US) suggested that 75% of the respondents accessed social media through their smartphones (AudienceProject, 2019). The usage rate has been higher still in the immediate past because the COVID-19 lockdown has caused a steep increase in the number of people who access social media through their smartphones (Kemp, 2020). Thus, the unilateral examination of various phenomena related to problematic social media and smartphone use may not generate comprehensive insights into their effects on individuals. In comparison, their concurrent study has the potential to lend more nuanced and holistic insights about not just the dark side of social media use but also the dark side of digitisation's impact on human lives. Because the use of online platforms, such as social media, and technological devices, such as smartphones, is only expected to rise in the foreseeable future, this knowledge is invaluable for developing proactive interventions that allow human beings from various walks of life, including adolescents, students and employees, to utilise these digital tools in a safe and appropriate manner.

Third, prior research on phenomena related to the dark side of digitisation and social media has mainly focused on young adults, i.e. university students (Talwar et al., 2020; 2019) and adolescents (Dhir et al., 2019; 2018; Malik et al., 2020). This suggests that our current understanding of these phenomena is likely skewed towards the adolescent perspective. However, the usage patterns, communication norms and subsequent experiences arising from social media and smartphone use can differ according to demographic indicators (Busch and McCarthy, 2021; Elhai et al., 2020), such as age. Therefore, we assert a critical need to extend the scope of existing research to investigate the effect of the dark side of digitisation phenomena for other

cohorts, including older adults and working professionals.

Fourth, the majority of prior research examining individual differences in the effects of phubbing and problematic smartphone use has rested on dark personality traits, such as psychopathy and narcissism (Balta et al., 2020). While these studies have demonstrated the influence of personal characteristics on problematic smartphone use, we argue that researchers must do more to understand the influence of individuals' work-related traits and values on such maladaptive usage in the workplace. For instance, employees' regulatory focus might play a role in increasing or decreasing the strength of their behavioural and psychological responses to the antecedents of interest. We attribute this gap to the limited research examining phubbing in the workplace and emphasise the critical need to address it as smartphone use continues to proliferate worldwide. Recent scholars have likewise made calls to explore individual differences in phubbing in various contexts (Court-right and Caplan, 2020).

Lastly, prior research has posited that FoMO and problematic smartphone use (i.e. phubbing) can elicit negative responses from employees in the workplace. However, little empirical evidence supports this supposition. Moreover, the evidence that does exist is constrained to examining specific forms of responses, such as job performance (Budnick et al., 2020). Therefore, scholars must study other forms of responses, such as employees' psychological states, as potential outcomes of FoMO or phubbing. Moreover, the extant literature offers a limited understanding of the pathways through which such responses develop, and this understanding is even more limited by the still smaller number of studies that have considered employees as respondents. We argue that this is a significant knowledge gap because the personal use of social media and smartphones during work hours has been increasingly acknowledged as a counter-productive practice (Chen et al., 2020; Derks et al., 2021). We further posit that this gap may be related to the failure to examine smartphone and social media use concurrently as antecedents of negative employee responses in the workplace.

We aim to address these gaps by concurrently examining FoMO and phubbing as antecedents of employees' responses at two levels—psychological (creativity and workplace exhaustion) and relational (work incivility). Utilising the triple-lens of the theory of compensatory Internet use (TCIU; Kardefelt-Winther, 2014), the limited capacity model (Lang, 2000) and regulatory focus theory (RFT; Brockner and Higgins, 2001), we raise and answer the following four research questions (RQs).

RQ1. What is the nature of the association between FoMO and phubbing in the workplace?

RQ2. How are FoMO and phubbing associated with psychological and relational employee responses?

RQ3. Does phubbing in the workplace mediate the association between FoMO and employees' responses?

RQ4. Does regulatory focus have a moderation effect on the association between phubbing and employee responses?

To address these four RQs, we collected data through a time-lagged survey on *Prolific Academic* of 243 individuals employed full-time in the US. We tested the proposed hypotheses by analysing the collected data using structural equation modelling (SEM). Our study's findings contribute to current knowledge in five ways. First, we focus solely on full-time employees who are a relatively under-researched respondent cohort in the problematic social media and smartphone use literature. Second, we concurrently study the ways in which social media (FoMO) and smartphones (phubbing) relate to employees' negative responses and behaviours. This concurrent approach allows us to present more holistic insights regarding the mechanisms or pathways through which personal social media and smartphone use during work hours can potentially translate into adverse outcomes. Third, we study two levels of employee responses—psychological and relational, which may arise as responses to FoMO and phubbing. A study of the dual-level of responses allows us to gain deeper and more nuanced insights into the ways in which the use of online platforms and technological devices for personal

reasons during work influences employees' responses. Fourth, based on the conceptualisation of phubbing put forth by [Chotpitayasunondh and Douglas \(2018a\)](#), we examine phubbing as an 'individual state' that encompasses negative emotions and behaviours that contradict prevalent social norms of polite conversation. Our study thus advances understanding of the phenomenon of phubbing and its antecedents and consequences in the specific context of working professionals within similar relationship groups. Fifth, we contribute to the literature on the dark side of digitisation ([Turel et al., 2019](#)) by examining both direct and indirect interactions of FoMO and phubbing with individual-level responses. We expect this investigation to lend greater insights into whether phubbing acts as a building block that indirectly and/or directly influences FoMO's adverse effects on employees. Our study of the moderating influence of regulatory focus on phubbing's association with employee responses is also a novel contribution to the field because no study has yet explored regulatory focus as a workplace-specific individual difference that affects employees' engagement with phubbing. Our findings raise important implications for academicians as well as practitioners, such as human resource (HR) managers.

The remainder of the manuscript is structured as follows. [Section 2](#) presents the theoretical background while [Section 3](#) outlines the literature and our arguments for the hypothesised associations. [Section 4](#) discusses the methodological approach adopted during this study, and [Section 5](#) presents the results of the data analysis. [Section 6](#) offers a detailed discussion of the findings. Finally, [Section 7](#) presents the concluding remarks, implications, limitations of our study and scope for future research.

2. Theoretical background

We interpret FoMO as a socially-driven, covert trigger that can induce problematic social media ([Whelan et al., 2020](#)) and smartphone use ([Elhai et al., 2018](#)). In the context of our study, we posit that FoMO induces employees to engage in phubbing behaviour to prevent the anxiety that would otherwise arise from missing social media updates from their virtual peers. Further, we interpret phubbing as a distinct form of smartphone use promulgated by employees' continual checking of their smartphones during workplace interactions. In other words, to alleviate the feeling of FoMO, individuals engage in the conscious act of smartphone use during social or professional interactions with co-workers, which constitutes phubbing. Their co-workers, in turn, may perceive such phubbing as a breach of communication etiquette and a form of social exclusion. We propose further that employees who experience FoMO-driven phubbing may exhibit negative responses in the workplace, which may take two forms, (a) psychological (measured by creativity and workplace exhaustion in the present study) and (b) relational (measured by workplace incivility in this study). We chose to examine these specific consequences based on prior research, which has posited their association with phubbing and ICT platforms as discussed in subsequent sub-sections. [Table 1](#) presents the conceptualisation of our study variables while [Fig. 1](#) graphically illustrates our hypothesised research framework grounded in the utilised theories.

2.1. Theory of compensatory internet use (TCIU)

The TCIU is a well-regarded contemporary theory that originally aimed to understand why individuals engage in excessive Internet use. In the recent past, scholars have also successfully applied this theory to understand the motivations that drive individuals to use social media in a problematic or maladaptive manner ([Tandon et al., 2020](#)). The TCIU suggests that such problematic use acts as a coping or compensatory mechanism for individuals who are experiencing psychopathic ([Wolniewicz et al., 2018](#)) or deleterious psychological states. Thus, such negative psychological states, like FoMO, reflect a diminished sense of well-being and can often act as triggers for excessive social media or Internet use amongst individuals, including employed adults ([Grover](#)

Table 1
Conceptualisation of the study variables.

Study Variable	Conceptualisation	Adapted from
Fear of missing out	Persistent anxiety or concerns employees experience during work hours about being absent from or missing socially rewarding experiences that others may be having or sharing on social media platforms	(Dhir et al., 2018 ; Przybylski et al., 2013 ; Talwar et al., 2019)
Phubbing	A distinct type of social exclusion facilitated by the use of smartphones to access social media during workplace interactions; this use of smartphones may or may not have the specific intention of snubbing others but is driven by the pervasive concern of missing social media updates during work hours'	(Chotpitayasunondh and Douglas, 2018b ; 2016)
Relational response: Workplace incivility	A form of low-intensity deviant workplace behaviour that reflects poor communication skills and indicates insensitivity, lack of respect and lack of consideration for polite behaviour in work settings, which includes checking personal communication, e.g. on their smartphones, during work hours or workplace interactions	(Akella and Lewis, 2019 ; Zivnuska et al., 2020)
Psychological response: Creativity	Employees' capacities to identify, explore, propose and utilise novel ideas that can have positive work and productivity-related outcomes. We believe that employees utilise every avenue available to them for developing such ideas, including social media and personal communication with others through smartphones during work hours.	(Luqman et al., 2021)
Psychological response: Work exhaustion	Employees' experience of weariness—resulting from the perceived or experienced demands of their work—that exceeds their capacity to handle the overload. We believe that such exhaustion includes the demands incurred by employees due to their desire to keep up with personal communications (e.g. through smartphones and social media) while also engaging in workplace interactions	(Luqman et al., 2021 ; Yu et al., 2018)
Promotion-focused employees	Employees who are motivated by gains such growth and development and thus share knowledge and seek assistance from others in an open and communication-conducive work environment. These employees are orientated to align their actual and ideal selves	(Brockner and Higgins, 2001 ; Luqman et al., 2021)
Prevention-focused employees	Employees who are motivated to maintain the status quo at work and align their actual and ideal selves to fulfil their organisational commitments and duties	(Brockner and Higgins, 2001 ; Luqman et al., 2021)

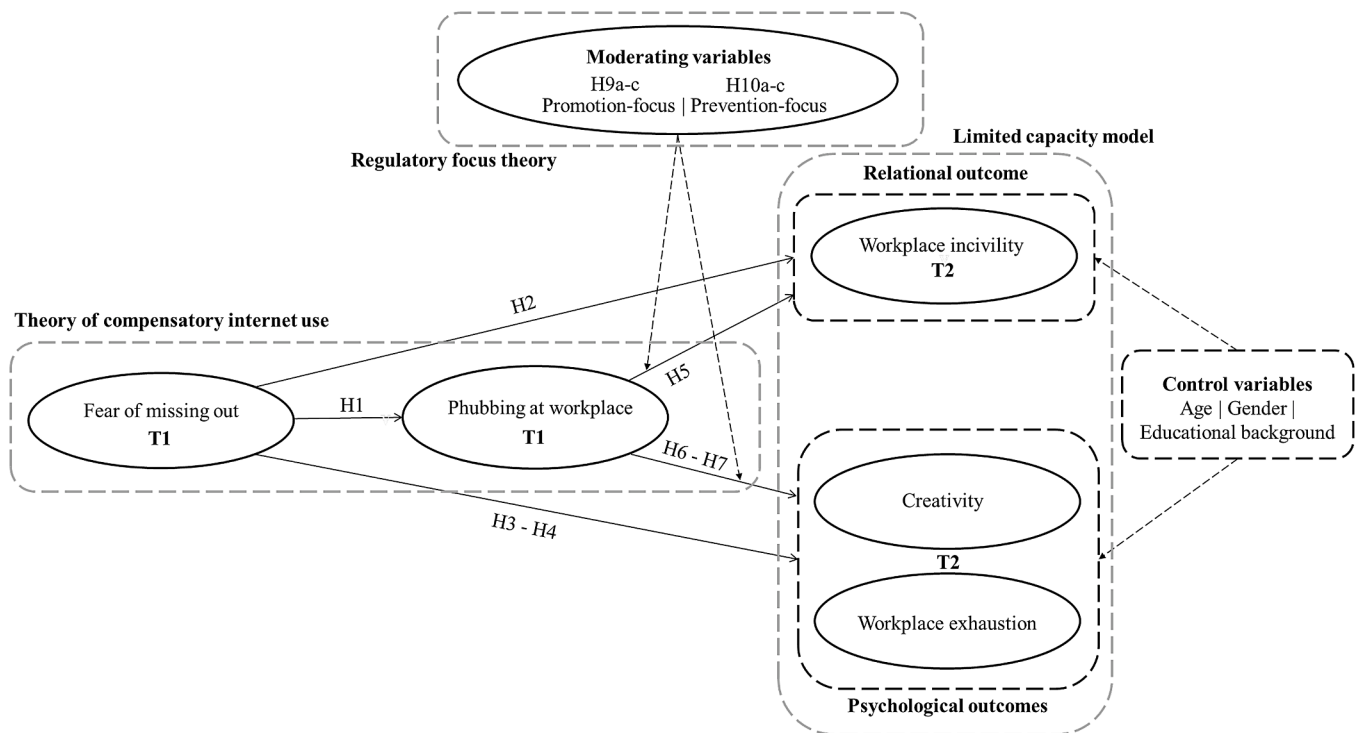


Fig. 1. Research framework note: T1 and T2 reflect the data collection waves at which the variables were measured in the study.

et al., 2019; Tandon et al., 2020). Through this theory, we contend that FoMO is a negative psychological state reflecting an individual's pervasive anxiety about missing social media updates. We expect individuals to regulate or avoid this anxiety by constantly access their smartphones, even in the workplace, and, therefore, engage in phubbing. Our contention finds support in a limited number of prior studies that have also utilised the TCIU to explain the role of FoMO in triggering compulsive social media use amongst employees (Tandon et al., 2020). For example, Yang et al. (2021) suggested that the pervasive presence of smartphones in human lives has transformed these technological devices into tools that individuals can access whenever they feel stressed. Elhai et al. (2018) also leveraged the TCIU to determine that FoMO was significantly positively associated with the severity of problematic smartphone use and negative affectivity. Although to the best of our knowledge, no study has used the TCIU to test whether FoMO triggers adverse employee outcomes, prior research does support our belief that FoMO is a viable trigger that can predict employees' proclivity towards phubbing and, consequently, translate into negative outcomes for this demographic cohort.

2.2. Limited capacity model (LCM)

We employ the limited capacity model (Lang, 2000) to explain the associations of FoMO and phubbing with employees' psychological and relational outcomes. The LCM posits that individuals possess a restricted expanse of cognitive or mental resources with which to process information. In cases where individuals are exposed to high amounts of information from the use of online platforms and technological devices, their mental resources become strained, and they experience overload. Based on the tenets of the LCM, we expect that employees who are driven by FoMO to engage in phubbing will divide their cognitive resources between 1) processing work-related information and cues and 2) social media updates. We expect further that this strained cognition will decisively affect these individuals by abstracting their focus from the work environment and tasks, resulting in adverse outcomes for their workplace relationships and state of mind.

Our contention, albeit untested in prior research to the best of our knowledge, receives support from studies that have utilised the LCM to examine the effects of the dark side of social media phenomena—e.g. FoMO and social media fatigue (Bright et al., 2015; Dhir et al., 2018)—on individuals' daily activities. For instance, Li and Chan (2021) observed that the stimulation of the sub-processes of information processing (i.e. encode, storage and retrieval) determine individuals' cognitive loads. The authors (Li and Chan, 2021) used the LCM to determine that smartphone use for specific purposes (e.g. social use) can positively influence individuals' subjective well-being and emotional states. In contrast, we leverage the LCM to propose that working individuals who use smartphones (i.e. engage in phubbing) to compensate for their experience of FoMO must allocate greater cognitive energy towards processing the elicited information and will, therefore, respond negatively towards work-related information and environmental cues. We expect such attenuation of focus on work-related tasks to create serious consequences related to diminished relationships with colleagues (through workplace incivility) and detrimental work-related psychological responses, such as reduced motivation to solve work-related problems (i.e. reduced creativity) and higher experienced overload (i.e. work exhaustion).

2.3. Regulatory focus theory (RFT)

RFT is based on the proposition that human beings are influenced primarily by two foci of self-regulation—promotion focus and prevention focus (Brockner and Higgins, 2001). This theory advances the classic hedonic principle by proposing that valence alone does not drive individuals' goal pursuit process; rather, this process is contingent on each individual's proclivity to measure gains versus losses. While promotion-focused employees are motivated to pursue goals such as growth and development, prevention-focused employees are more inclined to pursue goals that ascertain security and fulfilment of their responsibilities (Brockner and Higgins, 2001; Luqman et al., 2021). Hence, while the former are more strategically orientated to pursue gains, the latter are more vigilant about preventing any perceivable

losses (Brockner and Higgins, 2001; Higgins and Pinelli, 2020; Zivnuska et al., 2019). In the two decades since RFT's inception, scholars have applied the theory in a multitude of organisational contexts to understand employee behaviour (in teams as well as amongst individuals), such as decision-making and HR or people management (Higgins and Pinelli, 2020).

Recently, scholars have also begun to utilise this theoretical lens to understand the use and influence of social media, including enterprise social media (Luqman et al., 2021; Mosteller and Poddar, 2017; Zivnuska et al., 2019). For instance, Mosteller and Poddar (2017) and Cho et al. (2019) utilised RFT to explore social media users' paradoxical behaviour of being concerned about their privacy yet sharing their personal information on social media platforms. In a recent study, Luqman et al. (2021) found that regulatory focus moderated the associations of employees' use of enterprise social media with psychological transition (through promotion focus) and interruption overload (through prevention focus). Following the prevalent use of this theory in management research to account for individual differences, we argue that RFT is a suitable choice to examine the ways in which employees' regulatory focus influences their behaviour when they experience the dark side of digitisation and social media phenomena. Hence, we use RFT to examine the moderating effect of regulatory focus on the association between phubbing and employees' relational and psychological responses.

3. Hypothesis development and research framework

3.1. FoMO and phubbing

While phubbing is a relatively new concept, a limited number of studies have reported its significant association with FoMO. For example, Davey et al. (2018) identified FoMO as one of the most important predictors of phubbing amongst young Indian adults, and they suggested that the passive use of social media mobile applications (hereinafter 'apps'), such as Facebook and WhatsApp, may be one reason for this association. Franchina et al. (2018) also found FoMO to be an antecedent of phubbing behaviour amongst adolescents. They contended further that FoMO was a more significant predictor for the problematic use of public social media platforms, such as Facebook, than for the problematic use of private social media platforms, such as Twitter. Noting that phubbing has been posited to emerge because of FoMO, Balta et al. (2020) asserted a critical need to investigate this association empirically. Drawing on these studies, we contend that it is possible for FoMO to trigger individuals to experience anxiety, which, in turn, causes them to engage in phubbing as a coping mechanism. While prior studies have mainly studied FoMO and phubbing amongst adolescents and young adults, we expect FoMO also to be associated with phubbing amongst employees, who increasingly use social media and smartphones during work hours. Our contention draws support from prior studies, which have considered FoMO as a cue that inclines individuals to pursue socially inclusive experiences (Lai et al., 2016). We anticipate that employees experiencing FoMO will strive to feel more socially included by continually accessing their smartphones for personal reasons to alleviate FoMO-related anxiety. Based on the above discussion, we propose the following hypothesis:

H1. FoMO is positively associated with phubbing.

3.2. FoMO and employee responses

3.2.1. Relational responses

Prior research has suggested that problematic social media use can lead to decreased relational satisfaction, especially in intimate relationships (Elphinston and Noller, 2011). For instance, Muscanell and Guadagno (2016) found that social media use influenced the relational quality and satisfaction of young adults' romantic relationships.

Similarly, González-Rivera and Hernández-Gato (2019) employed the systemic transactional model of dyadic coping to suggest that social media and technology use can act as a stressor on romantic relationships by engendering conflicts over its use. Further, Holmgren and Coyne (2017) found that the pathological use of social media can lead adolescents to demonstrate uncivil and even aggressive behaviour towards others, for example, by making depreciating comments, engaging in gossip and excluding others. Extrapolating from these studies, we speculate that experiencing FoMO may cause employees to engage in social media use at work, which, in turn, may create conflicts and thus incivility amongst co-workers. We leverage the LCM to posit FoMO as a socially-driven trigger, which could cause employees to allocate increased mental capacity to cope with their anxiety regarding the possibility of missing out on relevant social experiences. Subsequently, we contend that such individuals may be more concerned with coping with FoMO than with maintaining the social norms of workplace communication, which may lead them to engage in perceivably uncivil behaviour. To the best of our knowledge, no prior evidence supports a direct relationship between FoMO and relational decrement, but based on the problematic social media use literature, we intuitively propose the following hypothesis:

H2. FoMO is positively associated with workplace incivility.

3.2.2. Psychological responses

Problematic use of social media and FoMO has been extensively studied regarding their negative correlation with an individual's psychological well-being, for example, depression and anxiety (Elhai et al., 2020; Reer et al., 2019). However, only scant research has examined the ways in which FoMO affects workplace-related consequences for employees (Rozgonjuk et al., 2020). For instance, Budnick et al. (2020) conceptualised FoMO as a distinct workplace construct and found that it significantly predicted burnout and employees' behaviour in terms of checking messages. In another study, Rozgonjuk et al. (2020) found FoMO to have a significant negative impact on individuals' productivity in their daily and work lives. Extrapolating from such studies, we expect FoMO to affect employees' psychological responses in two ways—by reducing their creativity and increasing their work exhaustion.

First, we anticipate that employees driven by a high degree of FoMO will experience a diminished ability to innovate and identify creative solutions to work-related problems or situations. While, to the best of our knowledge, no prior research has specifically investigated the link between FoMO and creativity, our contention is grounded in limited prior research indicating that employee creativity may be positively correlated with social networks when those networks exhibit weaker ties (Jain and Jain, 2017). Luqman et al. (2020) also posited that employees' creativity may be adversely affected by the stressors or demands they face at work. We extrapolate from these studies and leverage the LCM to propose FoMO as a socially-driven stressor that may overburden employees' cognitive capacity to generate novel ideas. Thus, we expect that employees with a greater susceptibility to FoMO will, consequently, experience decreased creative output.

Second, we expect FoMO-driven employees to experience work exhaustion as a psychological response. Our assumption is grounded in prior research that has determined a significant positive association between FoMO and social media fatigue, either directly or indirectly through the excessive use of social media platforms (Dhir et al., 2018; Tandon et al., 2021; Tugtekin et al., 2020). For instance, Bright and Logan (2018) found that FoMO significantly influenced social media fatigue. Similarly, Zhang et al. (2020) determined FoMO to be a significant stressor associated with social media fatigue. Social media fatigue refers to an individual's experience of exhaustion resulting from various overloads related to the use of online and technological platforms, such as social media (Dhir et al., 2018). We argue that previous findings related to this phenomenon are applicable in explaining the association between FoMO and work exhaustion because such

exhaustion may arise from an employee's inability to handle work demands while simultaneously attempting to cope with the FoMO-driven need to process social media content. Hence, extrapolating from the existing research on social media fatigue and drawing upon the LCM, we speculate that FoMO will drive employees to constantly use online platforms, thereby limiting their capacity to manage work-related demands and causing them to experience exhaustion. Thus, we propose the following hypotheses:

- H3.** FoMO is negatively associated with creativity.
H4. FoMO is positively associated with work exhaustion.

3.3. Phubbing and employee responses

3.3.1. Relational responses

Phubbing is often seen as rude and uncivil behaviour (Al-Saggaf and O'Donnell, 2019). Scholars have found phubbing to have a significant and negative association with relationship satisfaction and the quality of communication in diverse interactional scenarios (Courtright and Caplan, 2020), for example, parent-child and partner dyads (Abeele et al., 2019; Al-Saggaf and Macculloch, 2019; Chotpitayasunondh and Douglas, 2018b). Consistent with these findings, previous research has contended that using smartphones to access social media can demand attentiveness and co-presence equivalent to interactions in real life (Thulin et al., 2020). Subsequently, it is plausible that phubbing can cause individuals to be perceived as preoccupied and uncivil in real-life interactions. In other words, individuals who pay more attention to their smartphones than to their colleagues in work settings may be seen as rude and inattentive. This contention receives support from the tenets of the LCM as well as from prior studies, which have suggested that phubbing is associated with relational deterioration in more personal contexts due to incivility (Courtright and Caplan, 2020), for example, amongst romantic partners (Abeele, 2020; Abeele et al., 2019) or familial group members (Al-Saggaf and O'Donnell, 2019).

Incivility is a critical and well-investigated aspect of workplace behaviour, but knowledge remains limited regarding the ways in which ICT platforms (such as smartphones and social media) influence incivility (Akella and Lewis, 2019; Zivnuska et al., 2020). The association between phubbing and incivility may be attributed to the fact that phubbing reduces an individual's perceived social presence and awareness of colleagues. This reduced presence and awareness may, in turn, lead a phubber to distance him or herself psychologically from others while causing those others to perceive the phubber as rude, impolite or uncivil (Al-Saggaf and O'Donnell, 2019; Chotpitayasunondh and Douglas, 2018b).

Based on the above discussion, we speculate that phubbing may cause relational decrements in the workplace due to workplace incivility. This supposition finds support in the politeness theory, which posits that phubbing disrupts the existing norms of polite behaviour (Al-Saggaf and O'Donnell, 2019). Grounded in the tenets of the LCM, we argue that an individual who engages in phubbing possesses a limited capacity to adhere to social norms of politeness and, subsequently, is more likely to become engaged in workplace incivility as a response. To the best of our knowledge, no prior evidence supports an association between relational decrement (from the perspective of workplace incivility) and phubbing. Drawing from previous literature, however, we propose the following hypothesis:

- H5.** Phubbing is positively associated with workplace incivility.

3.3.2. Psychological responses

Albeit scarce, the research examining the influence of phubbing on employee outcomes primarily anticipates a negative association between the two variables. For instance, Roberts and David (2020) found a negative relationship between supervisors' phubbing (or boss phubbing) and employees' job performance, which was contingent on employees'

trust in their supervisors' and employees' job satisfaction. Roberts and David (2017) also determined boss phubbing to have an indirect and negative relationship with employee engagement. Drawing on these studies, we anticipate a negative association between phubbing and employee creativity. Our belief is grounded in the understanding that phubbing can occupy employees' attention as much as do real-life interactions (Stathatos, 2020; Thulin et al., 2020); thus, it can diminish their focus on generating creative ideas to benefit their work and organisational productivity. The LCM, which considers cognitive capacity to process informational cues as a distinct resource that can be overburdened, further supports this supposition. Hence, we anticipate that FoMO-driven phubbing will predominantly occupy employees' mental resources and diminish their creativity.

Busch and McCarthy (2021) observed that problematic smartphone use may—depending on the type or form of smartphone use—cause employees to neglect their work roles. Moreover, phubbing or using a phone during peer interactions may preoccupy the phubber's attention (Stathatos, 2020). Therefore, phubbing may diminish employees' attentiveness towards work and increase their perceived work exhaustion. We leverage the LCM to propose that phubbing in the workplace may lead employees to experience constant interruptions from their phones (Derks et al., 2021). We contend further that such interruptions may overwhelm employees' mental capacity to perform work-related tasks adequately and cause them to perceive a higher level of work exhaustion as a psychological response. Our speculation finds support in the study of Luqman et al. (2021), who reported that employees' use of enterprise social media increased their exhaustion by causing interruption overloads that drained their cognitive resources. Although we study public social media platforms, we anticipate a similar positive association between phubbing and work exhaustion. While, to the best of our knowledge, no prior study has examined the association of phubbing with work exhaustion and creativity, we intuitively propose the following hypotheses based on the above discussion:

- H6.** Phubbing is negatively associated with creativity.
H7. Phubbing is positively associated with work exhaustion.

3.4. The mediating role of phubbing

To obtain a more nuanced understanding of the associations between FoMO, phubbing and negative employee responses, we investigate whether phubbing mediates the association between FoMO and employee responses. We believe that smartphones may serve as the primary channel by which employees access social media (Kemp, 2020). If our belief is correct, phubbing should also play an indirect (i.e. mediating) role in the emergence of negative outcomes due to FoMO in the workplace. Our expectation is based on the prior literature regarding phubbing and smartphone addiction, which has indicated their mediational capacity in various contexts. For example, Satici and Deniz (2020) found that smartphone addiction partially mediated the association between an individual's emotional regulation strategies and subjective happiness. Çikrikci et al. (2019) theorised phubbing to mediate the association between personality traits (the Big Five Inventory) and life satisfaction, but they could not empirically validate the proposed association. In another study, Ivanova et al. (2020) determined the mediating effect of phubbing on the association between smartphone addiction and depression. Drawing on these studies, we contend that phubbing may mediate the associations between FoMO and employees' responses. Thus, we propose the following hypotheses:

- H8a.** Phubbing mediates the association between FoMO and workplace incivility.
H8b. Phubbing mediates the association between FoMO and creativity.
H8c. Phubbing mediates the association between FoMO and work exhaustion.

3.5. The moderating role of regulatory focus

The orientation of promotion-focused employees encourages them to seize opportunities to progress and advance. Such employees attempt to derive maximum pleasure from their self-regulated activities, which are often aligned with their personal goals for professional achievement (Zivnuska et al., 2019). In fact, Luqman et al. (2021) suggested that promotion-focused employees who desire to achieve high degrees of professional success may be more orientated towards socialising with others to gain positive outcomes. Furthermore, Zivnuska et al. (2019) observed that promotion-focused employees were more open to approaching behaviours, including the use of social media to build their own networks, emphasise their status and enhance their creativity. Based on these prior findings, we expect that promotion-focused employees will be more likely to engage in phubbing to maximise their interactions with their social and work groups. At the same time, however, driven by their goal to achieve an ideal balance between their work and social lives and to fully utilise the available interactional opportunities, they will attempt to be more attentive to their colleagues during their interactions with them and exhibit greater enthusiasm and energy at work. The preceding discussion motivates us to anticipate—even in the absence of any prior evidence—that employees’ promotion focus will moderate the association between phubbing and employee responses such that promotion-focused employees will be less likely to exhibit uncivil behaviour and more likely to exhibit creativity while also experiencing lower levels of work exhaustion. Hence, we propose the following hypotheses:

- H9a.** Regulatory focus negatively moderates the association between phubbing and workplace incivility such that the positive association is weaker for promotion-focused employees.
- H9b.** Regulatory focus negatively moderates the association between phubbing and creativity such that the negative association is weaker for promotion-focused employees.
- H9c.** Regulatory focus negatively moderates the association between phubbing and work exhaustion such that the positive association is weaker for promotion-focused employees.

Prior research has also suggested that prevention-focused employees are concerned with maintaining the status quo and fulfilling their job responsibilities to ensure their security or avoid losses (Brockner and Higgins, 2001; Higgins and Pinelli, 2020). While these employees also wish to achieve success and advancement in their careers, they are more likely to focus on completing work-related tasks to avoid any losses to their personal security (Luqman et al., 2021; Zivnuska et al., 2019). According to Luqman et al. (2021), the same possibilities for interaction on enterprise social media that promotion-focused employees may view as viable opportunities to gain achievement might be evaluated by prevention-focused employees as causing increased concerns for their privacy and security. Extrapolating from prior studies, we anticipate that prevention-focused employees will—unlike promotion-focused employees—keep their heads down and work strictly according to the rules and regulations of their organisations to avoid any penalties or reprimands. We expect such employees to avoid engaging in the personal use of technology during work hours, and thus, we expect prevention focus to weaken the associations between phubbing and employee responses. Furthermore, because prevention-focused employees tend to be concerned more with completing their work-related duties and the rules and penalties that govern appropriate workplace behaviours, it is plausible to expect that such employees who are driven by their FoMO to engage in phubbing might experience greater adverse consequences, including increased incivility, reduced creativity and increased work exhaustion. Although, to our knowledge, no prior study has examined the potential moderation effect of prevention focus on phubbing, we propose the following hypotheses by extrapolating prior findings on employee behaviour in the workplace:

- H10a.** Regulatory focus positively moderates the association between phubbing and workplace incivility such that the positive association is stronger for prevention-focused employees.
- H10b.** Regulatory focus positively moderates the association between phubbing and creativity such that the negative association is stronger for prevention-focused employees.
- H10c.** Regulatory focus positively moderates the association between phubbing and work exhaustion such that the negative association is stronger for prevention-focused employees.

3.6. Control variables

Extant research has noted that socio-demographic variables, such as education, age, income and gender, can influence an individual’s social media and smartphone use (Barry et al., 2017; Gezgin et al., 2017; Yin et al., 2015). Following prior scholars (Cao and Yu, 2019; Talwar et al., 2020), we thus included the socio-demographic factors of age, gender and educational background as control variables to account for their potential confounding effects on the tested associations.

4. Methods

4.1. Data collection and participants

We used *Prolific Academic* to conduct a time-lagged (Lo Presti et al., 2020) self-reported survey to gather responses from US-based employees in two waves set one month apart. Because it provides scholars easy access to potential respondents who are best suited to participate in their specific research projects, *Prolific Academic* is a widely used platform for recruiting respondents (Bhutto et al., 2021). We collected responses for two variables (i.e. FoMO and phubbing) from 317 participants in the first wave. In the second wave, we measured three variables that reflected the psychological and relational responses of interest (i.e. work exhaustion, creativity and work incivility). In the second, moreover, we shared the questionnaire only with those respondents who participated in the first wave of data collection. We received 249 responses in the second wave and removed six as incomplete during the data cleaning. Thus, we proceeded to analyse 243

Table 2
Demographic profile of respondents.

Variable	Category	Frequency	Percentage
Gender	Male	143	58.8%
	Female	100	41.2%
Age	25–30 years	65	26.7%
	31–35 years	73	30.0%
	36–40 years	52	21.4%
	41–45 years	20	8.2%
	46–50 years	16	6.6%
	51–55 years	12	4.9%
	56 years or older	5	2.1%
Educational background	High school	28	11.5%
	Professional/vocational degree	10	4.1%
	Bachelors’ degree	119	49.0%
	Masters’ degree	71	29.2%
Work experience	Doctorate	15	6.2%
	1–3 years	5	2.1%
	3–5 years	34	14.0%
	5–7 years	21	8.6%
	7–9 years	23	9.5%
	More than nine years	160	65.8%
Average use frequency	Up to 30 min per day	6	2.5%
	Between 31 min and 1 hour per day	30	12.3%
	1–3 h per day	72	29.6%
	3–5 h per day	64	26.3%
	5–7 h per day	36	14.8%
	More than 7 h per day	35	14.4%

responses. Table 2 details the demographic profile of the respondents.

We chose the US as the context of this study for two reasons: (a) the US is a mature market in the context of social media and smartphone penetration, and (b) relatively less research has been conducted on phubbing in this context compared to other countries, e.g. the United Kingdom (Chotpitayasunondh and Douglas, 2018b; 2016). We recruited respondents from *Prolific Academic* using two fundamental criteria based on our study's objectives: (a) full-time employment in a managerial or support staff position and (b) active use of online platforms during work hours. Because our study extrapolated findings regarding adolescents and young adults to employees, we deemed it prudent to focus on online platforms as an umbrella term. At the beginning of the survey, we informed respondents that 'online platforms' referred to news outlets, search engines, social media sites, blogs/vlogs, shopping sites, gaming sites or apps, creative content outlets, app stores, payment systems, etc. We also informed respondents at the beginning of the survey that their participation was voluntary and anonymous, and we assured them that we would not retain any personal information and would use the collected data only for academic purposes. By communicating this information to the participants, we sought to counteract any potential social desirability bias.

4.2. Questionnaire development

We measured the respondents' socio-demographic indicators (age, gender and work experience) via questions that relied on an ordinal scale with pre-determined classifications as presented in Table 2. We adapted pre-existing scales and items for the study measures and recorded responses for individual items on a five-point Likert scale (1 = strongly disagree and 5 = strongly agree). Because we adopted the scales and items to a new context, we solicited the opinion of three experts from marketing, HR management and information systems science to ensure the face and content validity of the developed instrument. The experts suggested modifications in the sentence structure of seven items, which we incorporated. Next, we conducted a pilot study with 15 respondents (aged 25 years and older and working full-time) to further assess the modified instrument's clarity and face validity. The pilot study confirmed that the items were clear and valid in the present context. Table 3 reports the details of the scales and items included in the final survey.

5. Results

We analysed the data through covariance-based structural equation modelling (CB-SEM) in SPSS 27 and AMOS 27. We chose CB-SEM as the analytical technique because our hypotheses are firmly rooted in theory and our data met the requirements for multivariate analysis. Our analytical approach aligned with scholars who previously used SEM to study behaviours related to technology (Kaur et al., 2021) and social media use (Talwar et al., 2020). Before the analysis, we tested the data for normality and multicollinearity-related issues. We also conducted a confirmatory factor analysis (Kline, 2015) and heterotrait-monotrait (HTMT) analysis (Henseler et al., 2015) to confirm the validity and reliability of our adopted study measures and scales.

5.1. Data normality and multicollinearity

Before the data analysis, we confirmed the normal distribution of our data through skewness and kurtosis values. These values fell below the recommended cut-offs, thereby confirming that our data met the normality assumptions. Because we utilised a self-reported survey, we also conducted Harman's (1976) single-factor test to assess for common method bias (CMB). The extracted single factor (without rotation) explained 21.19% of the variance, well below the recommended limit of 50% to rule out CMB (Podsakoff et al., 2003).

Table 3
Measurement and structural factor loadings of scale items.

Study variable	Measurement items	CFA	SEM
FoMO (Przybylski et al., 2013; Tandon et al., 2020)	I get worried when I find out my friends are having fun without me on online platforms	.83	.83
	I get anxious when I don't know what my friends are up to on online platforms	.81	.81
	It bothers me when I miss an opportunity to meet up/interact with friends on online platforms	.71	.71
	It bothers me if I am not updated about the latest issues being discussed on online platforms	.61	.61
	I often glance at my phone when I am talking to my co-workers	.75	.75
	I often keep my phone where I can see it when I am with my co-workers	.74	.74
Phubbing (Al-Saggaf et al., 2019; Roberts and David, 2017)	During a typical meeting where my co-workers are present, I often pull out and check my phone	.70	.70
	I often feel anxious if I don't have my phone nearby while talking to my co-workers	.76	.76
	In the last year, I have put others down or shown disapproval to them in some way	.79	.79
	In the last year, I have paid little attention to a statement made by someone or showed little interest in their opinion	.68	.68
	In the last year, I have made demeaning, rude or derogatory remarks about someone	.87	.87
	In the last year, I have addressed someone in unprofessional terms, either privately or publicly	.78	.78
Work incivility (Relational outcome) (Cortina et al., 2001; Nair and Vohra, 2010)	I feel emotionally drained from my work	.94	.94
	I feel emotionally fatigued because of the demands of my job	.93	.93
	I feel burnt out from my work	.89	.89
	I am frequently overwhelmed at work by the amount of information I receive	.74	.74
	I feel exhausted at work	.91	.90
	I feel mentally fatigued because of the demands of my job	.92	.92
Workplace exhaustion (Psychological outcome) (Dhir et al., 2019; Luqman et al., 2021)	I demonstrate originality in my work	.77	.77
	I suggest radically new ways of doing things at work	.78	.78
	I suggest new ways to achieve organisational goals at work	.86	.86
	I promote and champion new ideas to my co-workers	.83	.83
	I rethink new ideas at work	.84	.84
	I find creative solutions to problems I face at work	.86	.86
Creativity (Psychological outcome) (Bhutto et al., 2021; Luqman et al., 2021)	I develop adequate plans for the implementation of new ideas at work	.83	.83

Note: SEM = structural model factor loadings and CFA = measurement model factor loadings. The references denote articles from which the scale items were adapted. In the original instrument, the scale for FoMO had nine items while phubbing had 18 items, work incivility had 13 items, creativity had 10 items and work exhaustion had eight items.

5.2. Measurement model, reliability and validity

The scale items showed a satisfactory factor loading, and the value of each item exceeded the recommended threshold of 0.6 (see Table 3). The CFA indicated that the model had a good fit ($\chi^2/df = 1.65$, $CFI = 0.96$, $TLI = 0.95$, $RMSEA = 0.05$). Because we adopted the scale items, we checked their validity and reliability in the present context. The items' average variance extracted (AVE) and composite reliability (CR) values fell below 0.50 and 0.70, respectively, and thus met Hair et al. (2011) recommend threshold values. This confirmed the reliability of the scale items (see Table 4). We also conducted an HTMT analysis to demonstrate our adapted measures' concrete discriminant validity. The HTMT analysis confirmed that the correlation between the adapted measures (see Table 5) was below the recommended threshold of 0.85 (Henseler et al., 2015).

5.3. Structural model

The path analysis demonstrated a good model fit ($\chi^2/df = 1.58$, $CFI = 0.95$, $TLI = 0.95$, $RMSEA = 0.05$) compared to the baseline indices, and the R² values indicated our model's good predictability. We assessed the validity of each hypothesis through the path coefficients (see Table 6 and Fig. 2), and the results revealed that the model accounted for 7.4% of the variance in phubbing, 7.9% of the variance in work incivility 11.3% of the variance in creativity and 9.3% of the variance in work exhaustion. While relatively low, these levels of explained variance are comparable to those in the extant literature. For instance, Roberts and David (2017) determined that boss phubbing explained 14% of the variance in employees' trust in their supervisors (a significant negative association) and 12% of the variance in psychological meaningfulness (an insignificant association). Similarly, Al-Saggaf et al. (2019) examined the antecedents of phubbing and determined that age and gender explained 8.4% of the variance in phubbing while trait boredom explained an additional 3.5%. Importantly, however, scholars have, thus far, engaged in only limited explorations of FoMO's work-related antecedents, which hinders our efforts to compare the levels of variance in employee responses our model explained with the levels of variance explained in existing studies.

Further, we found support for five of the seven hypotheses proposing direct effects: **H1** ($\beta = 0.27^{***}$), **H2** ($\beta = 0.18^*$), **H3** ($\beta = -0.16^*$), **H5** ($\beta = 0.16^*$) and **H7** ($\beta = 0.18^*$). Although we also anticipated a negative association between phubbing and creativity (**H6**), the analysis, which showed this association to be positive ($\beta = 0.19^*$), did not support this hypothesis. Similarly, the analysis failed to support **H4** ($\beta = 0.06^{ns}$). In terms of the control variables, we observed significant controlling effects of gender on work exhaustion ($\beta = 0.19^{**}$) and educational background on creativity ($\beta = 0.20^{**}$).

5.4. Mediation analysis

Using Model 4 in PROCESS Macro to conduct the analysis by bootstrapping the data 5000 times, we tested whether phubbing mediated the relationship between FoMO and employee responses in **H8a–c**. We found that phubbing partially mediated the association between FoMO

Table 4
Results of reliability analysis (measurement model).

	CR	AVE	MSV	ASV	CRE	FoMO	PHUB	INCIVIL	WEX
CRE	0.94	0.68	0.02	0.01	0.83				
FoMO	0.83	0.55	0.08	0.04	-0.11	0.75			
PHUB	0.83	0.54	0.08	0.05	0.13	0.28	0.74		
INCIVIL	0.86	0.61	0.05	0.03	0.00	0.21	0.22	0.78	
WEX	0.96	0.79	0.05	0.02	-0.15	0.13	0.21	0.06	0.89

Note: Fear of missing out (FoMO), Phubbing (PHUB), Work exhaustion (WEX), Work incivility (INCIVIL), Creativity (CRE), Composite reliability (CR), Average variance extracted (AVE), Maximum shared variance (MSV), Average shared variance (ASV).

Table 5
HTMT analysis.

	FoMO	PHUB	INCIVIL	WEX	CRE
FoMO	XXXX				
PHUB	0.29	XXXX			
INCIVIL	0.21	0.23	XXXX		
WEX	0.13	0.22	0.07	XXXX	
CRE	0.10	0.13	0.01	0.14	XXXXX

Table 6
Results of hypothesis testing.

Hypothesis	Path	β	Significance	Support
H1	FoMO → Phubbing	0.27	< 0.001	Yes
H2	FoMO → Work incivility	0.18	< 0.05	Yes
H3	FoMO → Creativity	-0.16	< 0.05	Yes
H4	FoMO → Work exhaustion	0.06	> 0.05	No
H5	PHUB → Work incivility	0.16	< 0.05	Yes
H6	PHUB → Creativity	0.19	< 0.05	No
H7	PHUB → Work exhaustion	0.18	< 0.05	Yes

and the relational response of work incivility, thereby supporting **H8a**. Further, phubbing fully mediated the associations between FoMO and the psychological responses of creativity and work exhaustion, thereby supporting **H8b–c** (see Tables 7 and 8).

5.5. Moderation analysis

We tested the moderation effect of employees' promotion focus and prevention focus on the association between phubbing and their psychological (creativity and work exhaustion) and relational (workplace incivility) responses using PROCESS Macro Model 1. The result of moderation analysis revealed that promotion focus moderated the association between phubbing and creativity, indicating support for **H9b**. However, H9a and H9c were not supported. At the same time, prevention focus did not have statistically significant moderation effect on any of the tested associations (**H10a–c** were unsupported). Table 9 and Fig. 3 present the results of the analysis. Fig. 3 shows that different intensities of promotion focus display relatively stable increase in terms of creativity for different magnitudes of phubbing. Meanwhile, users with low levels of promotion focus exhibited relatively stable creativity. Thus, in general, employees with high levels of promotion focus exhibited greater creativity than did those with medium and low levels of promotion focus.

6. Discussion

We tested ten hypotheses to examine the direct and indirect associations between FoMO, phubbing and employee responses to these phenomena. Our analysis confirmed FoMO and phubbing as significant contributors to the dark side of digitisation and social media use in the workplace. Moreover, we found that employees' promotion focus moderated the association between phubbing and creativity. These findings present new insights into the dark side of social media and digitisation experienced by individuals employed in a full-time capacity

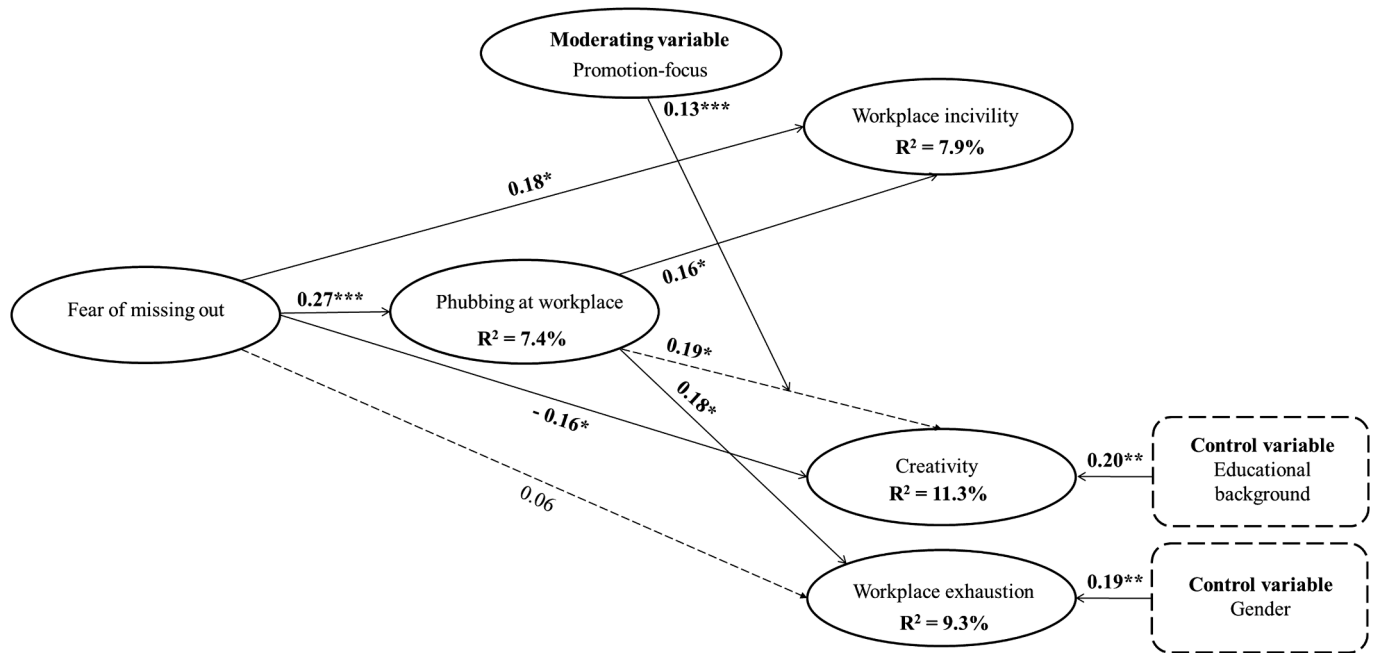


Fig. 2. Structural model Note: Solid arrows denote hypothesised associations supported by the analysis, dashed arrows show unsupported hypotheses and bold beta values indicate significant relationships.

Table 7 Results of mediation analysis.

FoMO → PHUB → INCIVIL						
	β	se	t	p	LLCI	ULCI
FoMO → PHUB	.28	.07	3.96	.00	.1404	.4182
FoMO → INCIVIL	.12	.06	1.98	.05	.0007	.2459
PHUB → INCIVIL	.14	.06	2.56	.01	.0325	.2495
Total effect of FoMO → INCIVIL	.16	.06	2.67	.01	.0425	.2828
FoMO → PHUB → CRE						
	β	se	t	p	LLCI	ULCI
FoMO → PHUB	.28	.07	3.96	.00	.1404	.4182
FoMO → CRE	-0.13	.07	-1.81	.07	-0.2670	.0110
PHUB → CRE	.14	.06	2.20	.03	.0144	.2605
Total effect of FoMO → CRE	-0.09	.07	-1.30	.19	-0.2254	.0461
FoMO → PHUB → WEX						
	β	se	t	p	LLCI	ULCI
FoMO → PHUB	.28	.07	3.96	.00	.1404	.4182
FoMO → WEX	.09	.09	1.03	.30	-0.0812	.2593
PHUB → WEX	.21	.08	2.79	.01	.0629	.3643
Total effect of FoMO → WEX	.15	.08	1.75	.08	-0.0186	.3160

Table 8 Indirect effects between dependant and independent variables.

	Effect	se	LLCI	ULCI
FoMO → PHUB → INCIVIL	.04	.02	.0037	.0869
FoMO → PHUB → CRE	.04	.02	.0033	.0819
FoMO → PHUB → WEX	.06	.03	.0123	.1187

in the US.

We found that FoMO shares a significant relationship with phubbing in the workplace (H1), which aligns with prior studies that investigated the same association, albeit amongst adolescents and young adults (Balta et al., 2020; Davey et al., 2018; Franchina et al., 2018). This result suggests that FoMO acts as a distinct trigger to increase employees' engagement in phubbing via their smartphones during work hours. The finding also lends credence to anecdotal accounts that smartphones facilitate problematic social media use in US workplaces and enhances

Table 9 Results of moderation analysis.

Prevention focus						
	β	t	p	LLCI	ULCI	Moderation?
PHUB → INCIVIL	-0.10	-1.24	.22	-0.2565	.0588	No
PHUB → CRE	.08	.93	.35	-0.0936	.2615	No
PHUB → WEX	-0.05	-0.47	.64	-0.2626	.1616	No
Promotion focus						
PHUB → INCIVIL	-0.08	-1.15	.25	-0.2096	.0553	No
PHUB → CRE	.13	1.92	.06	-0.0031	.2646	Yes
PHUB → WEX	.02	.20	.85	-0.1644	.2005	No

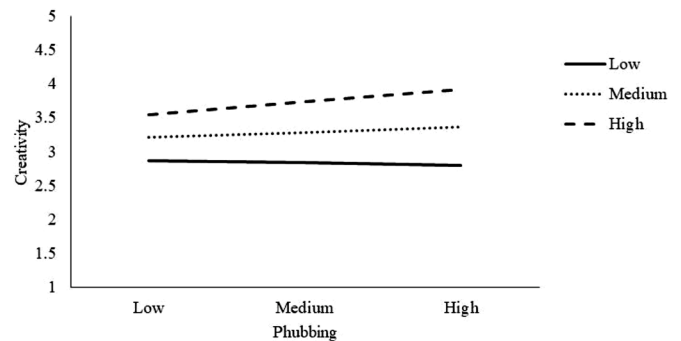


Fig. 3. Moderation effect of employees' promotion focus on the association of phubbing with creativity.

the current knowledge on the dark side of social media. Moreover, this finding provides empirical support for prior research, which has likewise postulated FoMO as a viable stimulus for problematic smartphone and social media use in various contexts, including professional environments. The fact that individuals' experience of FoMO can have a significant influence on their professional lives speaks volumes about the transcendent nature of the dark side of social media and its capacity to create adverse consequences by blurring the boundaries between individuals' professional and personal lives. Thus, this study represents a

significant advancement in our understanding of FoMO, which has mainly been studied in terms of its effects on people's personal lives.

Our analysis also confirms that FoMO shares a significant positive association with workplace incivility (H2) and a significant negative association with creativity (H3). These results indicate that FoMO may drive employees to focus their attention on keeping abreast of updates from their social groups rather than on work-related efforts. This shift in focus may, in turn, undermine specific aspects of employees' professional lives, such as their relationship with others due to workplace incivility and diminished creativity due to cognitive preoccupation with alleviating FoMO. These are novel findings that demonstrate FoMO's capacity to affect some workplace-related outcomes. They are, moreover, somewhat aligned with prior literature, which found FoMO and social media usage to have a detrimental impact on job performance (Budnick et al., 2020; Rozgonjuk et al., 2020) and interpersonal relationships (Holmgren and Coyne, 2017; Tandon et al., 2021).

Contrary to our expectations, however, we found FoMO to be unrelated to workplace exhaustion (H4). This finding is surprising because previous studies have reported that FoMO predicted social media fatigue (e.g. Dhir et al., 2018; Tandon et al., 2021; Tugtekin et al., 2020). A possible reason for this divergent finding may be the significant extent to which social media has become ingrained in the lives of individuals in the US (Statista, 2020), which may intrinsically motivate employees to keep up with social media updates. Another factor could also be the ongoing COVID-19 pandemic lockdowns, which have exponentially increased the individual use of social media across the globe (Kemp, 2020) to foster connectivity in professional and personal lives. Thus, it is possible that FoMO may induce employees to use social media, but their own inclinations and motives may enable them to avoid workplace exhaustion, for instance due to their utilization of such platforms to maintain connectivity with others during the pandemic. It is also possible, however, that this finding is specific to our studied sample, and further research is required to advance any generalisations.

Our analysis also showed that phubbing is positively correlated with both relational and psychological outcomes. These results lend support to H5 and H7, which posited a positive association of phubbing with workplace incivility and exhaustion. The findings show that employees who engage in phubbing are preoccupied with their smartphones and social media use, which may overburden their mental capacity to process both work and social media-related information and thereby cause them to experience exhaustion. At the same time, these employees' preoccupation with smartphone use during work hours may cause them to overlook the necessity of exhibiting basic polite behaviour in workplace interactions, which their colleagues may, in turn, perceive as incivility.

In another finding contrary to our expectations, phubbing appeared positively associated with employee creativity. This unanticipated finding, which is the opposite of our hypothesis (H6), indicates that employees' use of smartphones during work hours may enable them to generate more creative ideas and solutions for work-related tasks. We attribute our results to the contextual factors of the studied sample and, perhaps, the work culture in the US. For example, a report by Statista (2019) suggested that 58% of US respondents used the mobile Internet to access search engines. Therefore, it is quite possible that accessing online platforms while phubbing exposes employees to information that helps them generate creative ideas at work. It is also quite possible that phubbing provides employees with the required respite or, psychological transition from work, which reinvigorates them to generate new ideas. In sum, the result implies that employees' tendency to constantly communicate on online platforms through their smartphones during professional interactions does not distract them as we expected. Rather, this constant smartphone-facilitated communication enhances their capacity to work more creatively. This is an extremely useful finding with implications for strategies to control social media use or discourage the use of smartphones at work. However, our study is the maiden attempt to empirically test this association, and further research is needed to

substantiate the evidence reported here.

The results for the mediation analysis were significant and showed that phubbing partially mediates the association between FoMO and work incivility (H8a) and fully mediates the association between FoMO and both hypothesised psychological responses of creativity and workplace exhaustion (H8b and H8c, respectively). Our findings align with prior studies that revealed the mediating role of phubbing and smartphone addiction on individual responses to technology use (Çikrikci et al., 2019; Satici and Deniz, 2020). Together, these findings show that FoMO alone may not be responsible for creating adverse consequences for employees; rather, these relationships are affected by how employees act to alleviate their feeling of FoMO through the use of technological devices, such as smartphones, in the workplace. Our results support the assertions of prior studies, which emphasised the need to examine the consequences of social media and smartphone use concurrently to holistically understand the effect of the dark side of digitisation on employees (e.g. Balta et al., 2020).

Our results failed to support the moderation effect of promotion focus on the relationship between phubbing and work exhaustion and on the relationship between phubbing and workplace incivility (H9a and H9c). These results suggest that employees' phubbing behaviour and the consequent relational response of incivility and psychological response of work exhaustion are unaffected by their regulatory focus of seeking advancement. One possible explanation for this finding could be that promotion-focused employees may be adept at using technological devices and online platforms, such as social media, in ways that do not have any significant effect on the civility of their behaviour or their own experiences of exhaustion. However, it is also possible that this finding is specific to the geographical context of this study (i.e. the US), where smartphones are an integral part of daily lives that are commonly used to access online platforms, especially during the ongoing COVID-19 pandemic. Thus, further examination of this association is required to draw any conclusions.

In comparison, the moderation analysis confirmed a positive moderating effect of promotion focus on the association between phubbing and creativity (H9b). This finding indicates that promotion-focused employees who engage in phubbing nevertheless ensure that all of their interactions with others, even on social media, aim to develop innovative solutions to work-related tasks and situations. This result aligns somewhat with prior scholarship (e.g. Zivnuska et al., 2019), which has also suggested that promotion-focused employees engage in more approach-orientated behaviours that allow them to pursue their desire to achieve success and advancement (Luqman et al., 2021; Zivnuska et al., 2019). Thus, it is plausible that promotion-focused employees use phubbing to enhance their peer networks and communicative prowess, which allows them also to generate more creative ideas for the workplace. To the best of our knowledge, however, no other study has yet examined this association. Therefore, further research is required to make any generalisations.

Lastly, we did not find any significant moderating effect for employees' prevention focus on the association between phubbing and employee responses (H10a–c). This result was unexpected and shows that prevention focus has no influence on the relationships between employees' phubbing and their consequential responses. A possible explanation for this finding is that prevention-focused employees are orientated towards maintaining the status quo and may avoid drawing undue attention to themselves through their non-work-related behaviour. Since such employees adopt more avoidant behaviours (Zivnuska et al., 2019), they may undertake additional efforts to balance their personal use of smartphones (i.e. phubbing) or online platforms, including social media, during work hours by ensuring that their responses and actions in the work environment remain unaffected. Once again, though, no prior studies have examined similar hypothesised relationships. Therefore, more research is needed before making any conclusive remarks regarding the effect of prevention focus on employees' phubbing-related consequences.

7. Conclusion

We identified four RQs to achieve our research objectives and tested ten hypotheses to investigate whether and how FoMO and phubbing elicit relational and psychological responses from individuals employed in a full-time capacity in the US. We found support for five of our seven proposed hypotheses regarding direct effects, all of our proposed hypotheses testing the indirect or mediating effects of phubbing on the relationships between FoMO and employee responses, and one hypothesis testing the association between phubbing and employees' psychological responses, i.e. creativity. These findings present new insights into the pathways through which the dark side of social media and digitisation interact and associate with the work-related responses of employees exhibiting individual differences (e.g. in terms of their regulatory focus). Our study results raise significant implications for academicians as well as practitioners interested in further advancing this field of research and using the findings to develop counteractive measures that can assist employees in avoiding such adverse consequences.

7.1. Implications for theory

Our study offers four implications for theory. First, the significant association between FoMO and phubbing confirms scholars' expectations that this relationship exists (e.g. Balta et al., 2020) not only in social but also in professional contexts. This further advances and makes more detailed our theoretical understanding of FoMO as a phenomenon of the dark side of social media for employees, especially because our time-lagged data suggest that the associations we observed between FoMO and other variables of interest persist over time. Our time-lagged study indicating the temporal stability of FoMO also provides us with a basis to call for further research to extend current knowledge boundaries by collecting data over more prolonged time periods to understand if there comes a point when such manifestations taper off. We also advocate for additional research involving experimental or observational studies to understand these phenomena by going beyond self-reported behaviour.

Second, the significant association of FoMO with two of three examined employees' responses (i.e. workplace incivility and creativity) makes a substantial contribution to the literature. The usefulness of our contribution is further enhanced by the fact that we bifurcated employees' behavioural responses into the relational and psychological, which makes the context and implications of the variables of interest clearer still. On the whole, our findings imply that researchers must venture beyond the commonly examined employee outcomes, such as work performance, productivity and engagement, to deepen our theoretical understanding of other potential consequences, such as interpersonal non-verbal communication and well-being in the workplace. In sum, our study presents a strong case for further examination of these associations as a viable research area that can contribute to the conceptual and operational understanding of phubbing and FoMO as workplace-related constructs with significant effects on employees. In addition, we open extensive possibilities for related research to explore general questions regarding cross-cultural and cross-industry differences in the antecedents and consequents of online platform usage at work as well as more intense examinations of specific phenomena, such as cyberloafing.

Third, our seemingly paradoxical finding that phubbing is positively associated with creativity may be a harbinger of a new perspective that the so-called dark side of social media/online platforms is perhaps not so dark. The possibility that the so-called dark side of social media and smartphone use may have a silver lining after all has the potential to transform the ways in which related employee behaviours are perceived and addressed. This is indeed a novel contribution that opens many exciting research avenues for scholars who have thus far focused on uncovering the detrimental effects of online platform usage on performance. These future investigations are particularly relevant in the

current COVID-19 environment, where the use of digital media has become a necessity.

Lastly, we leveraged the TCIU, RFT and LCM to support our arguments, which are grounded primarily in the field of psychology. Although scholars have not previously utilised this unique combination of theories to examine employee outcomes related to the use of online platforms, the theoretical arguments we presented clearly demonstrate the effectiveness of this tripod of theories in explaining the interplay of selected phenomena and their contextual significance. Thus, we enrich the theoretical grounding of knowledge in the area, on the one hand, and lend support to the usefulness of these theories in multiple settings, on the other.

7.2. Implications for practice

Based on our results, we offer four implications to assist HR managers and employees in reducing the negative impact of the dark side of digitisation and social media use.

First, we suggest that managers consider introducing regulatory and supportive policies to help employees manage their personal and work-related communication during work hours. Such policies can assist employees in managing their experience of FoMO and problematic smartphone use or phubbing. Moreover, we encourage managers to introduce communication workshops to increase employees' awareness of techno-communication etiquette in both personal and social contexts. Such workshops would allow employees to converge on a singular perspective of what actions, e.g. phubbing, may be perceived as uncivil, hamper inter-personnel relationships and, perchance, create negative consequences for organisational productivity. Further, managers should consider allocating specific time limits per day for employees to access social media platforms, such as Facebook, to assuage the possible experience of FoMO while also fostering creativity and communication amongst employees. Once employees have exhausted this time limit, organisations may consider blocking access to social media platforms via the company WiFi and IP address. It is plausible that such regulatory policies may also discourage employees from using social media through the mobile Internet. This would, in our opinion, improve employee productivity, which could have positive effects on the organisational value chain.

Second, based on our findings regarding the psychological responses that arise from FoMO and phubbing, we urge managers to consider the work-related outcomes of using smartphones and social media for work purposes. For instance, we recommend that managers endeavour to appropriately integrate and monitor these technological platforms in their organisations, especially for employees engaged in tasks that require enhanced creative output. Employees engaged in such tasks may benefit from increased access to social media platforms and smartphones, which would not only alleviate FoMO and allow them to focus on work-related tasks but also provide them with an alternative channel for exploring original ideas to improve their work output and, subsequently, organisational productivity and performance. Managers may also consider solidifying policies for the use of technological devices, such as smartphones, in a manner that helps employees manage their work and personal life-related demands. We believe that this is especially critical during the COVID-19 pandemic, which has caused multiple organisations to shift to virtual platforms for conducting business. For instance, encouraging work-related communication on social media platforms, such as WhatsApp, may accelerate inter/intra-personnel communication while also allowing employees to check their personal messages on these platforms. However, our findings may only be applicable in the present context; therefore, we suggest that managers also consider educating employees about the potential ways in which excessive smartphone and social media use for non-work purposes can act as a distraction from work-related tasks. We offer this implication based on our findings and the literature we present to support our arguments, which posits a negative association between phubbing and

individual-level outcomes, including work engagement.

Third, we urge employees themselves to consider adopting a digital well-being check, for example, by setting time limits for social media use on their phone or laptop calendars. Since FoMO is related to self-determination and the ability to self-regulate use behaviours, a digital well-being check may enable employees to more sustainably self-regulate their FoMO-driven social media use during work hours. Moreover, this practice may encourage employees to ensure that their smartphone usage is within acceptable bounds during work hours so that this behaviour does not deteriorate into cyberloafing. Such measures would enable employees to use employment-incumbent digital resources in a manner that improves their creativity yet limits their susceptibility to exhaustion.

Fourth, we urge managers to encourage employees to offer support to colleagues' who are discernibly affected by FoMO or over-engage in phubbing. Such peer support may allow employees to regulate their own experiences of the dark side of digitisation phenomena, such as FoMO, and mitigate the adverse effects of such phenomena on their work behaviours and relationships. Such initiatives, we believe, also have the potential to increase societal awareness of the adverse consequences that the inappropriate use of technological devices and online platforms may engender and inculcate supportive mechanisms amongst working professionals to counteract these adverse consequences. It is possible that such supportive mechanisms may diffuse through the working populace into the mainstream populace, especially as employees become increasingly aware of problematic social media and smartphone use in their own families.

7.3. Limitations and future scope for research

Despite its contributions to literature, our study entails three primary limitations that future scholars may address. First, our analysis controlled for socio-demographic variables, and the results imply that extraneous factors may significantly affect the tested dependant variables, i.e. employee responses. Future scholarship should explore this possibility by including socio-demographic characteristics as possible moderators for phubbing and FoMO or by deciphering possible gender-based differences in employee responses to these phenomena. Second, we utilised a time-lagged and self-reported survey that is inherently susceptible to respondent bias and does not allow for the derivation of causal relationships. Although our use of a time-lagged survey offers insight into the stability of the examined relationships over time, the time lag between our two data collection waves was only one month. In the future, studies may consider adopting mixed-methods or experimental methodologies to address these gaps. Scholars may also consider conducting longitudinal studies with additional waves of data collection and longer intervals between the waves. Third, our main model did not consider organisational factors, such as an employee's role and hierarchical level in the organisation, which may explain the low level of explained variance of the dependant variables. Scholars may consider including such factors in future theoretical frameworks to derive more nuanced knowledge regarding employees' experiences of FoMO and phubbing in the workplace. Such examinations may also lead to the development of models with a comparably higher predictive power. For example, scholars may conduct comparative cross-industry studies to explore how the tested associations manifest in various industries and thus present a more generalisable outlook regarding the dark side of social media and digitisation.

Based on our results, we also urge scholars to conduct qualitative studies, e.g. focus groups and personal interviews, to explore, in a more nuanced way, the positive and negative influences of the dark side of digitisation phenomena, such as phubbing, nomophobia, cyberloafing and FoMO, on individuals' work lives. Such studies may also endeavour to understand the work-related antecedents of FoMO and the allied dark side of social media phenomena to derive deeper and more holistic insights into the dark side of digitisation. Further, future scholarship may

benefit from observational studies exploring the ways in which the dark side of digitisation phenomena, such as FoMO, influence employee productivity and culminate in negative or positive connotations for the organisational value chain. Such studies could generate more reliable knowledge about the effects of the dark side of digitisation on organisational performance and productivity.

Additionally, our results imply that FoMO and phubbing in the workplace may be studied through other theoretical lenses as well, for example, social learning theory (Bandura, 1977) and task-technology fit theory (Goodhue, 1995). Through social learning theory, for instance, scholars may examine the perpetuate use of FoMO-driven social media and smartphones with regards to employees' performance in team-based tasks. Based on the findings, we also advocate for a multi-disciplinary examination of phubbing and FoMO to account for additional traits that reflect individual differences in the workplace. Finally, we suggest that adopting theories from different fields (e.g. organisational behaviour and HR management)—and, especially, adopting these theories in a convergent manner—may also facilitate this nascent research area's theoretical advancement.

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CRedit authorship contribution statement

Anushree Tandon: Conceptualization, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Amandeep Dhir:** Conceptualization, Methodology, Writing – review & editing. **Shalini Talwar:** Conceptualization, Methodology, Writing – review & editing. **Puneet Kaur:** Conceptualization, Methodology, Writing – review & editing. **Matti Mäntymäki:** Conceptualization, Writing – review & editing, Project administration.

References

- Abeele, M.V., 2020. The social consequences of phubbing. In: Ling, R., Fortunati, L., Goggin, G., Lim, S.S., Li, Y. (Eds.), *The Oxford Handbook of Mobile Communication and Society*. Oxford University Press, New York, pp. 158–174.
- Abeele, M.V., Hendrickson, A.T., Pollmann, M.M.H., Ling, R., 2019. Phubbing behavior in conversations and its relation to perceived conversation intimacy and distraction: an exploratory observation study. *Comput. Human Behav.* 100, 35–47. <https://doi.org/10.1016/j.chb.2019.06.004>.
- Akella, D., Lewis, V.J., 2019. The modern face of workplace incivility. *Organ. Manag. J.* 16, 55–60. <https://doi.org/10.1080/15416518.2019.1604202>.
- Al-Saggaf, Y., Macculloch, R., 2019. Phubbing and social relationships: results from an Australian sample. *J. Relationships Res.* 10.1017/jrr.2019.9.
- Al-Saggaf, Y., MacCulloch, R., Wiener, K., 2019. Trait boredom is a predictor of phubbing frequency. *J. Technol. Behav. Sci.* 4, 245–252. <https://doi.org/10.1007/s41347-018-0080-4>.
- Al-Saggaf, Y., O'Donnell, S.B., 2019. Phubbing: perceptions, reasons behind, predictors, and impacts. *Hum. Behav. Emerg. Technol.* 1, 132–140. <https://doi.org/10.1002/hbe2.137>.
- AudienceProject, 2019. Share of social media users in the United States who access social networks via select digital devices as of 3rd quarter 2019 [WWW Document]. Statista. URL <https://www-statista-com.ezproxy.utu.fi/statistics/184318/daily-social-media-activities-of-us-adults-device> (accessed 12.19.20).
- Balta, S., Emirtekin, E., Kircaburun, K., Griffiths, M.D., 2020. Neuroticism, trait fear of missing out, and phubbing: the mediating role of state fear of missing out and problematic Instagram use. *Int. J. Ment. Health Addict.* 18, 628–639. <https://doi.org/10.1007/s11469-018-9959-8>.
- Bandura, A., 1977. *Social Learning Theory*. Prentice Hall, Englewood Cliffs, NJ.
- Barry, C.T., Sidoti, C.L., Briggs, S.M., Reiter, S.R., Lindsey, R.A., 2017. Adolescent social media use and mental health from adolescent and parent perspectives. *J. Adolesc.* 61, 1–11. <https://doi.org/10.1016/j.adolescence.2017.08.005>.
- Bhutto, T.A., Farooq, R., Talwar, S., Awan, U., Dhir, A., 2021. Green inclusive leadership and green creativity in the tourism and hospitality sector: serial mediation of green psychological climate and work engagement. *J. Sustain. Tour. n.a.*, 1–22. 10.1080/09669582.2020.1867864.
- Bright, L.F., Kleiser, S.B., Grau, S.L., 2015. Too much Facebook? An exploratory examination of social media fatigue. *Comput. Human Behav.* 44, 148–155. <https://doi.org/10.1016/j.chb.2014.11.048>.

- Bright, L.F., Logan, K., 2018. Is my fear of missing out (fomo) causing fatigue? Advertising, social media fatigue, and the implications for consumers and brands. *Internet Res* 28, 1213–1227. <https://doi.org/10.1108/qmr.2005.21608cag.001>.
- Brockner, J., Higgins, E.T., 2001. Regulatory focus theory: implications for the study of emotions at work. *Organ. Behav. Hum. Decis. Process.* 86, 35–66. <https://doi.org/10.1006/obhd.2001.2972>.
- Budnick, C.J., Rogers, A.P., Barber, L.K., 2020. The fear of missing out at work: examining costs and benefits to employee health and motivation. *Comput. Human Behav.* 104, 106161 <https://doi.org/10.1016/j.chb.2019.106161>.
- Busch, P.A., McCarthy, S., 2021. Antecedents and consequences of problematic smartphone use: a systematic literature review of an emerging research area. *Comput. Human Behav.* 114 <https://doi.org/10.1016/j.chb.2020.106414>.
- Cao, X., Guo, X., Vogel, D., Zhang, X., 2016. Exploring the influence of social media on employee work performance. *Internet Res* 26, 529–545. <https://doi.org/10.1108/IntR-11-2014-0299>.
- Cao, X., Yu, L., 2019. Exploring the influence of excessive social media use at work: a three-dimension usage perspective. *Int. J. Inf. Manage.* 46, 83–92. <https://doi.org/10.1016/j.ijinfomgt.2018.11.019>.
- Chen, Q., Hu, J., Zhang, W., Evans, R., Ma, X., Chen, Q., 2020. Employee use of public social media: theories, constructs and conceptual frameworks. *Behav. Inf. Technol.* 0, 1–25. <https://doi.org/10.1080/0144929X.2020.1733089>.
- Cho, H., Roh, S., Park, B., 2019. Of promoting networking and protecting privacy: effects of defaults and regulatory focus on social media users' preference settings. *Comput. Human Behav.* 101, 1–13. <https://doi.org/10.1016/j.chb.2019.07.001>.
- Chotpitayasunondh, V., Douglas, K.M., 2016. How 'phubbing' becomes the norm: the antecedents and consequences of snubbing via smartphone. *Comput. Human Behav.* 63, 9–18. <https://doi.org/10.1016/j.chb.2016.05.018>.
- Chotpitayasunondh, V., Douglas, K.M., 2018a. Measuring phone snubbing behavior: development and validation of the generic scale of phubbing (GSP) and the generic scale of being phubbed (GSBP). *Comput. Human Behav.* 88, 5–17. <https://doi.org/10.1016/j.chb.2018.06.020>.
- Chotpitayasunondh, V., Douglas, K.M., 2018b. The effects of 'phubbing' on social interaction. *J. Appl. Soc. Psychol.* 48, 304–316. <https://doi.org/10.1111/jasp.12506>.
- Chu, T.H., 2020. A meta-analytic review of the relationship between social media use and employee outcomes. *Telemat. Informatics* 50, 101379. <https://doi.org/10.1016/j.tele.2020.101379>.
- Çikrikci, Ö., Griffiths, M.D., Erzen, E., 2019. Testing the mediating role of phubbing in the relationship between the big five personality traits and satisfaction with life. *Int. J. Ment. Health Addict.* July, 1–13. [10.1007/s11469-019-00115-z](https://doi.org/10.1007/s11469-019-00115-z).
- Cortina, L.M., Magley, V.J., Williams, J.H., Langhout, R.D., 2001. Incivility in the workplace: incidence and impact. *J. Occup. Health Psychol.* 6, 64–80. <https://doi.org/10.1037/1076-8998.6.1.64>.
- Courtright, J., Caplan, S., 2020. A meta-analysis of mobile phone use and presence. *Hum. Commun. Technol.* 1, 20–35. <https://doi.org/10.17161/hct.v1i2.13412>.
- Davey, S., Davey, A., Raghav, S.K., Singh, J.V., Singh, N., Blachnio, A., Przepiórką, A., 2018. Predictors and consequences of 'phubbing' among adolescents and youth in India: an impact evaluation study. *J. Family Community Med.* 25, 35–42. https://doi.org/10.4103/jfcm.JFCM_71_17.
- Derks, D., Bakker, A.B., Gorgievski, M., 2021. Private smartphone use during worktime: a diary study on the unexplored costs of integrating the work and family domains. *Comput. Human Behav.* 114, 106530 <https://doi.org/10.1016/j.chb.2020.106530>.
- Dhir, A., Kaur, P., Chen, S., Pallesen, S., 2019. Antecedents and consequences of social media fatigue. *Int. J. Inf. Manage.* 48, 193–202. <https://doi.org/10.1016/j.ijinfomgt.2019.05.021>.
- Dhir, A., Yossatorn, Y., Kaur, P., Chen, S., 2018. Online social media fatigue and psychological wellbeing—A study of compulsive use, fear of missing out, fatigue, anxiety and depression. *Int. J. Inf. Manage.* 40, 141–152. <https://doi.org/10.1016/j.ijinfomgt.2018.01.012>.
- Elhai, J.D., Dvorak, R.D., Levine, J.C., Hall, B.J., 2017. Problematic smartphone use: a conceptual overview and systematic review of relations with anxiety and depression psychopathology. *J. Affect. Disord.* 207, 251–259. <https://doi.org/10.1016/j.jad.2016.08.030>.
- Elhai, J.D., Levine, J.C., Alghraibeh, A.M., Alafnan, A.A., Aldraiweesh, A.A., Hall, B.J., 2018. Fear of missing out: testing relationships with negative affectivity, online social engagement, and problematic smartphone use. *Comput. Human Behav.* 89, 289–298. <https://doi.org/10.1016/j.chb.2018.08.020>.
- Elhai, J.D., Yang, H., Montag, C., 2020. Fear of missing out (FoMO): overview, theoretical underpinnings, and literature review on relations with severity of negative affectivity and problematic technology use. *Braz. J. Psychiatry* 00, 1–7. <https://doi.org/10.1590/1516-4446-2020-0870>.
- Elphinston, R.A., Noller, P., 2011. Time to face it! Facebook intrusion and the implications for romantic jealousy and relationship satisfaction. *Cyberpsychology, Behav. Soc. Netw.* 14, 631–635. <https://doi.org/10.1089/cyber.2010.0318>.
- Franchina, V., Abeele, M.Vanden, van Rooij, A.J., Lo Coco, G., De Marez, L., 2018. Fear of missing out as a predictor of problematic social media use and phubbing behavior among Flemish adolescents. *Int. J. Environ. Res. Public Health* 15, 2319. <https://doi.org/10.3390/ijerph15102319>.
- Gezgin, D.M., Hamutoğlu, N.B., Gemikonaklı, O., Raman, İ., 2017. Social networks users: fear of missing out in preservice teachers. *J. Educ. Pract.* 8, 13.
- González-Rivera, J.A., Hernández-Gato, I., 2019. Conflicts in romantic relationships over Facebook use: validation and psychometric study. *Behav. Sci. (Basel)* 9, 18. <https://doi.org/10.3390/bs9020018>.
- Goodhue, D.L., 1995. Understanding user evaluations of information systems. *Manag. Sci.* 41, 1827–1844. <https://doi.org/10.1287/mnsc.41.12.1827>.
- Grover, S., Sahoo, S., Bhalla, A., Avasthi, A., 2019. Problematic internet use and its correlates among resident doctors of a tertiary care hospital of North India: a cross-sectional study. *Asian J. Psychiatr.* 39, 42–47.
- Hair, J.F., Ringle, C.M., Sarstedt, M., 2011. PLS-SEM: indeed a silver bullet. *J. Mark. Theory Pract.* 19, 139–152. <https://doi.org/10.2753/MTP1069-6679190202>.
- Harman, H.H., 1976. *Modern Factor Analysis*. University of Chicago press.
- Henseler, J., Ringle, C.M., Sarstedt, M., 2015. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* 43, 115–135. <https://doi.org/10.1007/s11747-014-0403-8>.
- Higgins, E.T., Pinelli, F., 2020. Regulatory focus and fit effects in organizations. *Annu. Rev. Organ. Psychol. Organ. Behav.* 7, 25–48. <https://doi.org/10.1146/annurev-orgpsych-012119-045404>.
- Holmgren, H.G., Coyne, S.M., 2017. Can't stop scrolling!: pathological use of social networking sites in emerging adulthood. *Addict. Res. Theory* 25, 375–382. <https://doi.org/10.1080/16066359.2017.1294164>.
- Ivanova, A., Gorbaniuk, O., Blachnio, A., Przepiórką, A., Mraka, N., Polishchuk, V., Gorbaniuk, J., 2020. Mobile Phone addiction, phubbing, and depression among men and women: a moderated mediation analysis. *Psychiatr. Q.* 91, 655–668. <https://doi.org/10.1007/s11262-020-09723-8>.
- Jain, R., Jain, C., 2017. Employee creativity: a conceptual framework. *Manag. Labour Stud.* 41, 294–313. <https://doi.org/10.1177/0258042x16676664>.
- Karddefelt-Winther, D., 2014. A conceptual and methodological critique of internet addiction research: towards a model of compulsive internet use. *Comput. Human Behav.* 31, 351–354. <https://doi.org/10.1016/j.chb.2013.10.059>.
- Karimikia, H., Singh, H., Joseph, D., 2020. Negative outcomes of ICT use at work: meta-analytic evidence and the role of job autonomy. *Internet Res.* 10.1108/INTR-09-2019-0385.
- Kaur, P., Dhir, A., Talwar, S., Ghuman, K., 2021. The value proposition of food delivery apps from the perspective of theory of consumption value. *Int. J. Contemp. Hosp. Manag.* ahead-of-p, 1–31. [10.1108/IJCHM-05-2020-0477](https://doi.org/10.1108/IJCHM-05-2020-0477).
- Kemp, S., 2020. Digital 2020 [WWW Document]. We Are Social. URL <https://wearesocial.com/uk/blog/2020/04/digital-around-the-world-in-april-2020> (accessed 12.19.20).
- Kline, R.B., 2015. *Principles and Practice of Structural Equation Modeling Analysis*. Guilford publications, New York, NY. <https://doi.org/10.1038/156278a0>.
- Kuss, D.J., Griffiths, M.D., 2017. Social networking sites and addiction: ten lessons learned. *Int. J. Environ. Res. Public Health* 14, 317–328. <https://doi.org/10.3390/ijerph14030311>.
- Lai, C., Altavilla, D., Ronconi, A., Aceto, P., 2016. Fear of missing out (FoMO) is associated with activation of the right middle temporal gyrus during inclusion social cue. *Comput. Human Behav.* 61, 516–521. <https://doi.org/10.1016/j.chb.2016.03.072>.
- Lang, A., 2000. The limited capacity model of mediated message processing. *J. Commun.* 50, 46–70.
- Li, X., Chan, M., 2021. Smartphone uses and emotional and psychological well-being in China: the attenuating role of perceived information overload. *Behav. Inf. Technol.* 0, 1–11. <https://doi.org/10.1080/0144929X.2021.1929489>.
- Lo Presti, A., Magrin, M.E., Ingusci, E., 2020. Employability as a compass for career success: a time-lagged test of a causal model. *Int. J. Train. Dev.* 24, 301–320. <https://doi.org/10.1111/ijttd.12198>.
- Luqman, A., Masood, A., Shahzad, F., Imran Rasheed, M., Weng, Q., 2020. Enterprise social media and cyber-slacking: an integrated perspective. *Int. J. Hum. Comput. Interact.* 36, 1426–1436. <https://doi.org/10.1080/10447318.2020.1752475>.
- Luqman, A., Talwar, S., Masood, A., Dhir, A., 2021. Does enterprise social media use promote employee creativity and well-being? *J. Bus. Res.* 131, 40–54. <https://doi.org/10.1016/j.jbusres.2021.03.051>.
- Malik, A., Dhir, A., Kaur, P., Johri, A., 2020. Correlates of social media fatigue and academic performance decrement: a large cross-sectional study. *Inf. Technol. People* 34, 557–580. <https://doi.org/10.1108/ITP-06-2019-0289>.
- Mosteller, J., Poddar, A., 2017. To share and protect: using regulatory focus theory to examine the privacy paradox of consumers' social media engagement and online privacy protection behaviors. *J. Interact. Mark.* 39, 27–38. <https://doi.org/10.1016/j.jintmar.2017.02.003>.
- Muscanell, N.L., Guadagno, R.E., 2016. Social networking and romantic relationships: a review of jealousy and related emotions. In: Riva, G., Wiederhold, B.K., Cipresso, P. (Eds.), *The Psychology of Social Networking: Personal Experience in Online Communities*. De Gruyter Open, Warsaw/Berlin, pp. 143–158.
- Nair, N., Vohra, N., 2010. Developing a new measure of work alienation. *J. Work. Rights* 14, 293–309. <https://doi.org/10.2190/wr.14.3.c>.
- 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. *J. Appl. Psychol.* 88, 879–903.
- Przybylski, A.K., Murayama, K., DeHaan, C.R., Gladwell, V., 2013. Motivational, emotional, and behavioral correlates of fear of missing out. *Comput. Human Behav.* 29, 1841–1848. <https://doi.org/10.1093/eurheartj/ehq289>.
- Reer, F., Tang, W.Y., Quandt, T., 2019. Psychosocial well-being and social media engagement: the mediating roles of social comparison orientation and fear of missing out. *New Media Soc* 21, 1486–1505. <https://doi.org/10.1177/1461444818823719>.
- Roberts, J.A., David, M.E., 2017. Put down your phone and listen to me: how boss phubbing undermines the psychological conditions necessary for employee engagement. *Comput. Human Behav.* 75, 206–217. <https://doi.org/10.1016/j.chb.2017.05.021>.
- Roberts, J.A., David, M.E., 2020. Boss phubbing, trust, job satisfaction and employee performance. *Pers. Individ. Dif.* 155, 109702 <https://doi.org/10.1016/j.paid.2019.109702>.
- Rozgonjuk, D., Sindermann, C., Elhai, J.D., Montag, C., 2020. Fear of missing out (FoMO) and social media's impact on daily-life and productivity at work: do WhatsApp,

- Facebook, Instagram, and Snapchat use disorders mediate that association? *Addict. Behav.* 110, 106487 <https://doi.org/10.1016/j.addbeh.2020.106487>.
- Satici, B., Deniz, M.E., 2020. Modeling emotion regulation and subjective happiness: smartphone addiction as a mediator. *ADDICTA Turkish J. Addict.* 7, 146–152. <https://doi.org/10.5152/addicta.2020.20035>.
- Stathatos, P., 2020. *Starting a Relationship is difficult: Phubbing creates Bad Impressions and Prevents the Creation of Relationships*. Baylor University.
- Statista, 2019. Mobile internet usage in the United States.
- Statista, 2020. Social media usage in the United States.
- Talwar, S., Dhir, A., Kaur, P., Zafar, N., Alrasheedy, M., 2019. Why do people share fake news? Associations between the dark side of social media use and fake news sharing behavior. *J. Retail. Consum. Serv.* 10.1016/j.jretconser.2019.05.026.
- Talwar, S., Dhir, A., Singh, D., Virk, G.S., Salo, J., 2020. Sharing of fake news on social media: application of the honeycomb framework and the third-person effect hypothesis. *J. Retail. Consum. Serv.* 57, 102197 <https://doi.org/10.1016/j.jretconser.2020.102197>.
- Tandon, A., Dhir, A., Almugren, I., AlNemer, G.N., Mäntymäki, M., 2021a. Fear of missing out (FoMO) among social media users: a systematic literature review, synthesis and framework for future research. *Internet Res* 31 (3), 782–821. <https://doi.org/10.1108/INTR-11-2019-0455>.
- Tandon, A., Dhir, A., Mäntymäki, M., 2021. Jealousy due to social media? A systematic literature review and framework of social media-induced jealousy. *Internet Res. ahead-of-p.* 1–42. 10.1108/INTR-02-2020-0103.
- Tandon, A., Kaur, P., Dhir, A., Mäntymäki, M., 2020. Sleepless due to social media? Investigating problematic sleep due to social media and social media sleep hygiene. *Comput. Human Behav.* 113, 106487 <https://doi.org/10.1016/j.chb.2020.106487>.
- Thulin, E., Vilhelmson, B., Schwane, T., 2020. Absent friends? Smartphones, mediated presence, and the recoupling of online social contact in everyday life. *Ann. Am. Assoc. Geogr.* 110, 166–183. <https://doi.org/10.1080/24694452.2019.1629868>.
- Tugtekin, U., Tugtekin, E.B., Kurt, A.A., Demir, K., 2020. Associations between fear of missing out, problematic smartphone use, and social networking services fatigue among young adults. *Soc. Media Soc.* 6 <https://doi.org/10.1177/2056305120963760>.
- Turel, O., Matt, C., Cheung, C.M.K., D'Arcy, J., Qahri-Saremni, H., Tarafdar, M., 2019. Panel report: the dark side of the digitization of the individual. *Internet Res* 29, 274–288. <https://doi.org/10.1108/INTR-04-2019-541>.
- Whelan, E., Islam, A.K.M.N., Brooks, S., 2020. Applying the SOBC paradigm to explain how social media overload affects academic performance. *Comput. Educ.* 143, 103692 <https://doi.org/10.1016/j.compedu.2019.103692>.
- Wolniewicz, C.A., Tiamiyu, M.F., Weeks, J.W., Elhai, J.D., 2018. Problematic smartphone use and relations with negative affect, fear of missing out, and fear of negative and positive evaluation. *Psychiatry Res* 262, 618–623. <https://doi.org/10.1016/j.psychres.2017.09.058>.
- Yang, H., Liu, B., Fang, J., 2021. Stress and problematic smartphone use severity: smartphone use frequency and fear of missing out as mediators. *Front. Psychiatry* 12, 1–8. <https://doi.org/10.3389/fpsy.2021.659288>.
- Yin, F.S., Liu, M.L., Lin, C.P., 2015. Forecasting the continuance intention of social networking sites: assessing privacy risk and usefulness of technology. *Technol. Forecast. Soc. Change* 99, 267–272. <https://doi.org/10.1016/j.techfore.2015.07.019>.
- Yu, L., Cao, X., Liu, Z., Wang, J., 2018. Excessive social media use at work: exploring the effects of social media overload on job performance. *Inf. Technol. People* 31, 1091–1112. <https://doi.org/10.1108/ITP-10-2016-0237>.
- Zhang, Y., Liu, Y., Li, W., Peng, L., Yuan, C., 2020. A study of the influencing factors of mobile social media fatigue behavior based on the grounded theory. *Inf. Discov. Deliv.* 48, 91–102. <https://doi.org/10.1108/IDD-11-2019-0084>.
- Zivnuska, S., Carlson, D.S., Carlson, J.R., Harris, R.B., Harris, R.B., Valle, M., 2020. Information and communication technology incivility aggression in the workplace: implications for work and family. *Inf. Process. Manag.* 57, 102222 <https://doi.org/10.1016/j.ipm.2020.102222>.
- Zivnuska, S., Carlson, D.S., Carlson, J.R., Harris, R.B., Harris, R.B., 2019. Investigating the impacts of regulatory focus and political skill within a social media context. *Comput. Human Behav.* 91, 151–156. <https://doi.org/10.1016/j.chb.2018.09.030>.

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