Guest editorial: Emotions in the digitalised workplace

Introduction

While during the past couple of decades we have witnessed an affective revolution on emotions within the work and organisational context (Barsade *et al.*, 2003; Ashkanasy and Dorris, 2017), research into the role played by emotions in the digitalised workplaces, that is, workplaces that are highly dependent on and/or enabled by digital technologies for their effective functioning, has remained scarce. With increased digitalisation being put to test owing to the recent COVID-19 pandemic and enforced remote work (Waizenegger *et al.*, 2020; Razmerita *et al.*, 2021), there is a pressing need to explore the ways in which emotions emerge, are expressed, articulated and shared within the context of the digitalised workplace. Emotions, defined as a transient state constructed on the spot based on bodily sensations, events and situations in the environment (Barrett, 2016), with an inherent action tendency (Frijda, 2007), are functional and critical for individuals for interpreting and navigating their surroundings (Lazarus, 1991). They are seen as being highly contextual, triggered, fuelled and shaped by the situation in which the individual finds him/herself, with important implications in a digitalised workplace.

The link between emotions and digitalisation was first recognised by Fineman *et al.* (2007), who called for research to explore how emotions are constructed, modified or supressed within the virtual environment. Since then, the "virtual" has advanced in different and unprecedented ways. In 2006, Facebook was opened to all users, and in 2007, the first iPhone was introduced. From 2008–2010 the use of social media and smartphones developed from early adopters to mass market take up, resulting in what is now more than 10 years of experience with these solutions as part of everyone's private and professional environment. Furthermore, in the era of ubiquitous computing new technologies also blend the digital and physical (e.g. use of GPS or sensors) with potential disruptive and unknown effects on work and employment in organisations (Cascio and Montealegre, 2016). The digital space is also more fluid now than before, where digital applications and devices are used across the boundaries of work and personal lives, whilst digital platforms connect people professionally across organisational boundaries (Yoo, 2010).

Historically, it is also worth noting that Trist and Bamforth already in 1951 had demonstrated and advocated the role of psychological well-being in the introduction of new technology at work, a perspective that has also been inherent to the socio-technical perspective promoted by the Tavistock Institute of Human Relations (Burnes and Cooke, 2012). At the same time, recent contributions to the information systems (IS) literature warns that humanistic objectives have been lost of sight in recent years (Sarker *et al.*, 2019). Hence, at this point in time there is a particular need to re-address, and re-emphasise the role of psychological factors, such as emotions, in the digitalised workplace. As noted by Fineman *et al.* (2007, p. 556): "The research agenda is an exciting one, stretching from the micro psychological, to the critical and sociological".

In what follows, we present relevant literature, including a literature review, on the topic, with the aim being to shed light on the current state of research and identify research gaps.

We do this in order to understand the extent to which existing literature has studied emotions within the digitally-enabled context or work. Following from this, we present the current special issue and the chosen four papers and thereafter, a future research agenda on this topic.

State of research on emotions and digitalised workplaces

To understand what characterises current research in this field, we carried out a literature review guided by principles of a systematic review. We sought publications about emotions in relation to the digital workplace since the previous special issue "Virtuality and emotions" (Fineman *et al.*, 2007). As the "digital or digitalised workplace" in itself is not a widely used concept, we widened our scope to include search for "digital" together with "emotions" followed by a qualitative review, reading titles and abstracts to select publications that related to the workplace (see Figure 1).

Following an initial search with only limited results, the decision was made to include not only "digital", but also, "information systems" and "information technology", and not only "emotions", but also, "affective", "affect" and "feelings". This led to a broader selection of papers that captures research on the affective dimension in the digitalised workplace.

In step 1, we searched in Scopus for title, abstract or keywords for the "emotion/feeling/affective", or "affect" in title or keywords (affect is used as a general word in a substantial number of abstracts for scientific papers), and "digital/information system/information technology" with publication year 2008–2021. We then limited the search to journal papers written in English (step 2). In step 3, we limited the scope to the areas of computer science, and business and management. In order to ensure that we only included high quality papers in our review, we extracted only those that were on the ABS 2021 list with three or four stars within the areas of information management (INFOMAN) and organisation studies (ORGSTUD) in step 4. Finally, in step 5, we sifted through the titles and abstracts of the papers in step 4 to included papers that were within the scope of our review and this special issue on the topic of emotions in the digital workplace. Please refer to Table 1 for a summary of the number of papers in the five steps.

When analysing the final 33 papers, we read these in depth, exploring the methods utilised, the theoretical framework and perspective on emotions as well as how the digitalised workplace was conceptualised.
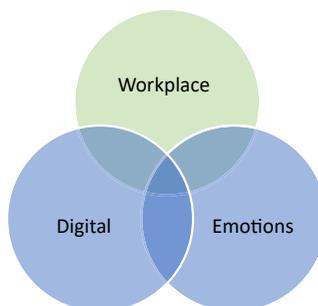
Figure 1.
Overview of the scope
of the literature review

Table 1.
Results of the literature
review

| Database	Step 1	Step 2	Step 3	Step 4	Step 5
Scopus	11,524	6,261	2,014	156	33

Looking at the 33 papers included in the final selection and publication year, it would appear that there was a slight upward trend (see trendline in Figure 2) in terms of the number of papers on the issue per year. In the period 2008–2012, zero to two papers were published per year, whereas from 2013 onwards (with the exception of 2015 and 2017), there were three to six papers on the issue.

It also emerged that of the 33 papers, 15 deal with IT implementation and use, eight relate to IT security and compliance, four are about computer-mediated communication and social networking, two cover algorithmic management, and four cannot be easily categorised. In Table 2 we explain the different categories and include examples.

Methodological approach in the selected papers

Methodologically, the majority of papers (71%) employed a quantitative approach, with hypotheses that were tested with quantitative methods of data collection in order to develop or support a theoretical model of how different factors affect each other, e.g. how emotional constructs can contribute to explaining variance in IT use. One example of these quantitative approaches is a highly cited paper from Beaudry and Pinsonneault (2010) that first involved using interviews to develop measures, understand the context, identify key emotions and explore reactions from users. These emotions were then tested using a structural model with relationships between emotions, adaptation and use. Limitations are discussed in terms of other emotions and how adaptation could be triggered in another organisational context, e.g. where the new IT system is mandatory.

In around 29% of the papers, a qualitative approach was adopted using methods for data collection that were contextual, often longitudinal, interpretivist and/or critical. For example, Bhattacherjee et al. (2018) followed up the research by Beaudry and Pinsonneault to explore users' reactions to mandatory IT use. They utilised semi-structured interviews to study how users perceived and responded to the new IT system throughout an eight-year period, demonstrating a rich understanding of the process of coping over time, with one contribution explaining how individuals may perceive the IT system as a threat and an opportunity at the same time. Hence, with this approach it was possible to understand the interplay between technology and human factors, not just relying on a social imperative perspective, as suggested by Sarker et al. (2019). Also, while the majority of studies adopting a quantitative

NUMBER OF PUBLICATIONS
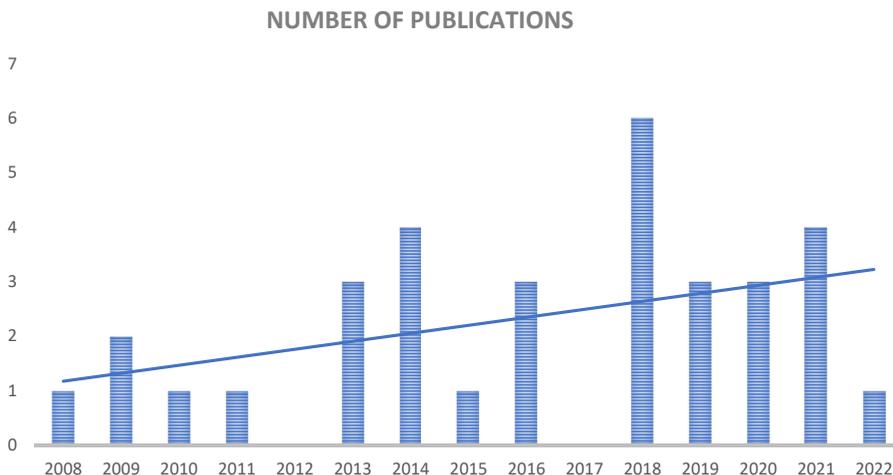
Figure 2.
Number of
publications from the
literature review

| Category	Description	Example
IT implementation and use	Studying emotions in initial adoption and use and continuous and ongoing use of different IT solutions	Introduction of an integrated suite of applications in two banks and how emotional reactions contribute to predicting IT use (Beaudry and Pinsonneault, 2010) Introduction of a mandatory computerised patient order entry system in a hospital and how emotions as part of user responses initially emerge and may change over time (Bhattacherjee et al., 2018)
IT security and compliance	Studying the role of emotions in how organisational members respond to information security policies, requirements, threats or opportunities for abuse	Information security requirements contributing to stress and moral disengagement as an emotional-focussed coping response that influences the intention to violate these requirements (D'Arcy et al., 2014) How events, such as pay-cuts or conflict, can create negative emotional responses, thus contributing to increasing the likelihood of employees intending to carry out insider computer abuse (Kim et al., 2016)
Computer-mediated communication and social networking	How computer-mediated communication and social networking are used for emotional regulation and expression, how this creates emotional responses, which has further consequences	How emotional content is presented in enterprise social media systems, and how this is different depending on status and gender (Reychav et al., 2019) How help-desk workers individually and as a group use the affordances of communication media for emotional regulation strategies, e.g. reducing or delaying negativity exposure (Wang et al., 2020)
Algorithmic management	Emotional responses as part of exploring how workers in the platform/gig economy deal with algorithmic control and management	How Uber drivers deal with "black box" algorithmic control and management, and how emotions are part of this (Pignot, 2021)
Other	Emotions in inter-organisational processes, sociomateriality and working from home during the COVID-19 pandemic	Exploring how emotions can be a part of sociomaterial theorising (Stein et al., 2014) The role of affect in hackathons (Endrissat and Islam, 2021)

Table 2.
Categories of topics from publications from the literature review

approach treated technology as a "black box", a qualitative approach usually entailed a functional perspective regarding technology. For example, using semi-structured interviews to understand how the affordances of communication media support emotion regulation strategies of IT help-desk workers (Wang et al., 2020).

In Figure 3, the different methods for data collection that have been used can be seen. Again, it emerges that quantitative methods for data collection are the most widely used, with surveys being the most common (42%). As for qualitative methods for data collection, it can be seen that ethnography and observation have been deployed just as often as interviews, and that 10%, in total, made use of digital data, e.g. Reychav et al. (2019), who used SAP's

HANA Text Analysis to measure the sentiment in each message for a total of 29K messages from one organisation's Enterprise Social Network (ESN), Yammer.

Perspectives on emotions in the selected papers

The review reveals several insights on the study of emotions in the extant literature. Out of the 33 papers 14 deal with emotions somewhat indirectly. For instance, this has been through integrating emotions into other frameworks, theories or concepts, such as organisational justice (Willison *et al.*, 2018), behavioural beliefs (Ortiz de Guinea *et al.*, 2014), ethical behaviour (Rahman *et al.*, 2021) and social cognitive theory (Moqbel and Kock, 2018). In these contexts, emotions are typically seen as an antecedent or moderator variables. In some of the papers emotions do not emerge until the findings section. For instance, Bucher *et al.* (2021) focussed on anticipatory compliance and algorithmic management, but found that it is important to keep emotions in check to avoid conflict and prompt positive ratings.

Further, in 11 of the 33 papers, the studies presented draw upon the stress and coping framework by Lazarus and colleagues (i.e. Lazarus and Folkman, 1984). It is interesting that, despite the papers referring to emotion, none of them cited his later work that focussed more specifically on emotions (i.e. Lazarus, 1991, 2006) as a more fine-grained concept. The overall theory by Lazarus and colleagues advocates a functional approach, whereby stress and emotions are seen as adaptive and hence, rational from the point of view of the individual experiencing them. The theory is also built on the premise of cognitive appraisal. Appraisal theories define emotions as processes, rather than states with appraisal thus being considered a process that detects and assesses the significance of the environment for well-being. Appraisal is inherently transactional as it involves an interaction between the event and the appraiser. According to appraisal theories of emotion, thinking (a cognitive evaluation) must occur first before experiencing emotions. The sequence of an emotional process or episode first involves a stimulus, followed by thought (cognition), which leads to the simultaneous experience of a physiological response involving emotion and action readiness. The emotion process is considered continuous and recursive, whereby changes in one component may give feedback to others. This may, in turn, lead to changes in appraisal and as a consequence, several emotional episodes may run in parallel. The coping framework by Lazarus and Folkman implies the two strategies of problem-focussed vs. emotion-focussed coping. The former refers to handling the underlying problem, whereas the latter pertains to regulating the emotional response to a problem. For the abovementioned 11 papers, the stress, emotions and coping framework by Lazarus and colleagues was typically adopted to explore how individuals respond to, and regulate their responses, in relation to technology. For instance, Zhao *et al.* (2020) looked at how employees regulate stress to deal with technology and become
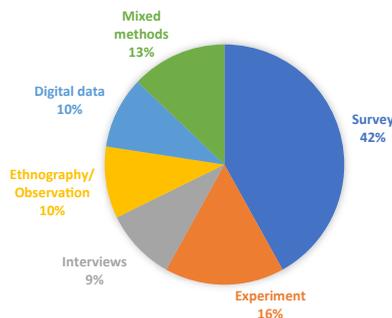
Figure 3.
Methods for data collection in the 33 papers

more productive at work, whilst Ding (2018) investigated how emotions determine continued IT use. Ortiz de Guinea (2016), on the other hand, examined how individuals cope with negative events once new technology has been adopted and is being used, whereas D'Arcy *et al.* (2014) looked at the ways of coping that can alleviate stressful information security requirements. Beaudry and Pinsonneault (2010) drew upon the theoretical framework by Lazarus and colleagues to develop a framework that classifies emotions and predict user reactions and IT use. They combined the dimensions of primary and secondary appraisal (opportunity vs. threat and perceived control vs. perceived lack of control) to group emotions into four distinct classes: achievement emotions, challenge emotions, loss emotions and deterrence emotions.

It was also found that five of the 33 papers leaned more towards social constructionist perspectives on emotion that postulates that emotions are shaped by culture and society. The functional significance of emotional responses is assumed to be found within the sociocultural system. Several referred to the work by Hochschield on emotional labour (Hochschild, 2012). For example, Stein *et al.* (2014), viewed emotions as relational from a sociomaterial point of view and referred to affective spaces and emotionologies. Reychav *et al.* (2019), on the other hand, situated emotion in the context of gender and status, referring to different social norms for emotional expression for men and women in social media.

The final four papers refer to affective events theory (Ormond *et al.*, 2019), the affective response model (Zhang, 2013; Agogo and Hess, 2018) and emotions as integrated in a NeuroIS framework (vom Brocke *et al.*, 2020). The notion of affect and affective events theory builds on the assumption that body and brain activity lead to emotions. That is, emotions emerge because of the brain's creation of the meaning of bodily sensations in relation to situation and events in the world (Barrett, 2016). The circumplex model (Russell and Barrett, 1999), referenced in these papers, implies there are two broader categories of affective features, namely valence and arousal, which are considered as being the building blocks of instances of emotion. This implies that affect is not an emotion as such, but rather, a general sense of feeling, which is experienced throughout the day (e.g. feeling "dragged out" or "cranky"). "Valence" refers to directionality, or how pleasant or unpleasant ones feels, whereas "arousal" describes how strongly one experiences something, e.g. feeling calm vs. being agitated. Emotions are seen as being psychologically constructed by the individual, based on these building blocks, whilst the surrounding context also plays an important part in triggering, fuelling and shaping emotions, partly through behaviour.

Perspectives on digitalised workplaces in the selected papers

Digital technologies enable organisations to reshape workplaces, offering opportunities for transforming how and where their employees work, how they connect and interact with each other and their clients, thus resulting in the popularity and spread of digitalised workplaces. Digitalisation is, thus, a pervasive characteristic of this type of workplace. Meske and Junglas (2020) have described this type of workplace transformation as "a phenomenon of new technologies causing significant changes to a variety of work-related aspects" (p. 1). The changes, according to these researchers, are profound, as they include different ways in how employees carry out their tasks and in how they interact with each other, and with other organisational members ultimately contributing to transforming the workplace experience.

Of the selected papers, only a limited number made an explicit reference to, and a deliberate attempt to define and conceptualise the digitalised workplace, thereby identifying key characteristics as well as the opportunities and challenges this provides. It is notable from these few works, that, despite being digitally dependent and enabled, this workplace is not just a technological phenomenon, but rather, an organisational one that encompasses a supporting culture and identity. This is supported by Dery *et al.*'s conceptualisation of digital

workplaces as "the physical, cultural and digital arrangements that simplify working life in complex, dynamic and often unstructured working environments" (Dery *et al.*, 2017, p. 136). Hence, there needs to be strong management and wide organisational support to this end for this to be sustainable. According to Dery *et al.* (2017), effective digital workplaces are characterised by employee connectedness and responsive leadership. Connectedness refers to the situation where employees have the opportunity to engage with each other as well as with customers and other business partners; exchanging information and knowledge and creating new ideas. Responsive leadership requires a keen focus on employees' experiences in the organisation, with this, thus, becoming a priority. Chamakiotis *et al.* (2021), with particular reference to the pandemic, similarly argue that leadership in the digital workplace needs to give priority to employees' well-being, as well as devising ways for developing trust and engagement in the virtual setting.

Table 2, which categorises the thematic areas of the selected papers in our review, has shown that researchers' interests in these types of workplaces are varied and diverse. Studies have focussed on different aspects, giving emphasis to the role of information and communication technologies (ICTs) in the functioning of the workplace (e.g. Ortiz de Guinea and Webster, 2013), different types of IT professionals and IT-dependent workers, such as cybersecurity professionals (e.g. D'Arcy *et al.*, 2014), IT staff (Wang *et al.*, 2020) or gig workers (e.g. Pignot, 2021), the implications of the digitalised workplaces and/or the impact of specific IT use on employees' anxiety and technostress (e.g. Agogo and Hess, 2018; Elie-Dit-Cosaque *et al.*, 2011), feelings of violation (e.g. Lin *et al.*, 2018) and well-being (e.g. Abelsen *et al.*, 2021). Other studies have examined digitally-enabled work spaces, such as hackathons (e.g. Endrissat and Islam, 2021) and enterprise social networks (e.g. Reychav *et al.*, 2019). Collectively, these studies confirm that digitalised workplaces, which comprise different digital technologies and applications across diverse settings, provide a plethora of opportunities to researchers to examine the processes and mechanisms through which these workplaces function, the interactions within them as well as the impact they have on individuals and organisations alike. This observation is reinforced with the current special issue, which presents diverse sets of digitalised workplaces, different emotions experienced and a range of approaches for studying these.

Papers in the current special issue

This Special Issue is aimed at advancing scholarly understanding of the ways in which digitalised workplaces and emotions are interconnected. We invited researchers to engage with this matter and to contribute towards enriching our knowledge in this emerging and vital area of research. After a rigorous and intense review process, we selected four papers to be published in this special issue. These are papers that have the strongest fit with the theme of the special issue; they each speak to its core theme, whilst also bringing distinct perspectives and diverse methodologies to the study of emotions, the interplay of interactions between digital technologies and workplaces, the emotional experiences as well as the emotional implications of these interactions.

Papers in this special issue include the following.

We begin with a paper by Wong, Solberg and Traavik, entitled "Individuals" fixed digital mindset, internal human resource management (HRM) alignment and feelings of helplessness in virtual teams', which explores the implications of a fixed digital mindset on emotions. The specific context of the study is that of a virtual team, consisting of individuals who are geographically dispersed and communicate via information and communication technologies, being treated as a form of a digitalised workspace. The study examines the emotional impact of fixed digital mindset, the latter implying that technological ability and organisational resources are unchanged. It is found that a fixed mindset contributes to

helplessness and that those with higher fixed digital mindset experience greater such feelings.

The study by Gkinko and Elbanna, entitled "Open and Tolerant with Empathy: The Role of Emotions in using AI-related chatbots in Digitalised Workplace", focusses on a distinctive AI tool, that of a chatbot, which is becoming increasingly popular in digitalised workplaces. Unlike other information and communication systems, chatbots have learning capabilities, and therefore, their usage is key to their improvement and development in the organisation. The paper is aimed at examining employees' emotional experiences when using chatbots and to provide insights into the impact of these on their usage. Using an in-depth case study approach in a large financial organisation, the researchers show that the social presence of the chatbot along with its learning capability contributes to positive emotions amongst employees, such as excitement, hope and playfulness. However, negative emotions, such as frustration, were experienced too, when the chatbot was found to get information wrong. The findings also provide evidence of connective emotions of empathy, which is presented as a distinct emotion linked to AI chatbot usage.

The study by Wang, entitled "Media Features and Communication Control in the Digitalised Workplace: A Study about Regulating Negative Emotional Communication", begins with the recognition that digitalised workplaces experience an abundant of emotions, some caused by the use of digital technologies and others by the people using these technologies. She brings the case of IT help desk staff, who are constantly having to deal with the negative emotions of IT users, as well as the emotions of other IT staff and their managers in a stressful, and highly demanding work environment. Within this context, the researcher examines the communication media features that could support regulating negative emotional communication in the workplace and the process by which this happens. Through a qualitative study, she examines how IT help desk staff utilise, sometimes proactively and sometimes reactively, communication media features (such as message broadcasting, message blocking and reprocessability) as ways for regulating negative emotions, thereby reducing related negative consequences, such as stress and burnout.

Finally, for our special issue, we invited researchers to reflect on the subject of "emotions in the digitalised workplace" within the COVID-19 context. The COVID-19 situation, with lockdowns and workers obliged to work from home, has resulted in many finding themselves working virtually. Whilst this may include the experience of working with new digital tools, it can also involve the experience of working without the usual complementary face-to-face interaction and physical closeness. With this in mind, we were interested in contributions that explore the emotional experiences and implications of this experience. A study by Vidolov has responded to this call. His article, entitled "Uncovering the affective affordances of video-conferencing technologies", draws on the theory of affordances to examine emotions within the context of videoconferencing meetings during the enforced remote work context of the COVID-19 pandemic. Using interviews and diaries, it is found that videoconferencing systems afford different ways for navigating users' emotional experiences. The concept of affective affordances is introduced and it is argued that videoconferencing meetings have not only enabled people to remain connected, but have also, become the medium through which solidarity and compassion are achieved.

Developing an agenda for future research on *emotions in the digitalised workplaces*

Our special issue has succeeded in covering some of the needed ground of helping in providing understanding of the subject of emotions within the emerging digitalised workplaces. Nevertheless, important areas for further research remain, which we outline below.

Linked to the COVID-19 pandemic and also, the acceleration of digital transformation in recent years, employees in many organisations are finding that their workplace is increasingly becoming a digital environment. In pre-digital organisations that existed before the digital economy, as opposed to born-digital organisations, adopting digital technologies is often necessary in order to prevail and prosper (Chanias *et al.*, 2019). Hence, the experience of what now, in both cases, can be called a digitalised workplace, may, nevertheless, differ. While contrasting these experiences would be interesting, there are also opportunities to study the experience of working in born-digital companies from an emotional perspective. Twitter, for example, recently announced that workers would be allowed to work from home indefinitely. Moreover, with core processes being digital, e.g. there being fully digital interaction with customers, how are emotions dealt with and how do emotions influence the work being carried out? Furthermore, in the process of adopting new digital solutions and digital transformation programmes within the context of pre-digital organisations, there is a need to understand how emotions are dealt with and what role they play in the digital transition or transformation?

Leadership has been recognised as being vital for the success of digitalised workplaces (Dery *et al.*, 2017; Chamakiotis *et al.*, 2021) and we would like to encourage more research in this area. There is a lot of literature on affect and emotions in the leadership/management literature, with affect and emotions having been found to be deeply intertwined with the process of leading as well as leader and follower outcomes (Gooty *et al.*, 2010). At the same time there is a disproportionate interest in positive emotions, something which has been addressed in the leadership literature (Rothman and Melwani, 2017) as well as in a previous special issue on human relations (Lindebaum and Jordan, 2014). At the same time, there is a body of literature on leaders within the online setting, such as virtual teams and online communities, with an emphasis on effective e-leadership behaviour and practices (Johnson *et al.*, 2015). However, less is known about how emotions amongst leaders unfold in the digitalised workspace and the impact of these on leadership behaviour. There is, therefore, an opportunity for further research in this area with the potential to contribute to the literature on emotions in leadership, when taking into account the implications of the digital workplace.

An increasing number of interactions take place online within organised spaces forming communities, enabled by digital platforms, where dispersed, voluntary members, create opportunities for innovative product design, knowledge creation, collaboration and learning (Faraj *et al.*, 2015). Knowledge exchange, coordination and emotional support are identified as key communication purposes in online communities (Faraj *et al.*, 2016), whilst members' identification and sense of belonging contribute to their sustainability (Panteli and Sivunen, 2019). Questions, therefore, need to be asked about the impact of these communities on the emotional well-being of their members (both positive and negative) and the role of online community leaders as well as members in providing emotional support. Furthermore, digital platforms also enable work being organised differently, e.g. according to the principles from the sharing economy (e.g. Uber) and microwork crowdsourcing (e.g. Amazon Mechanical Turk) (Constantinides *et al.*, 2018; Panteli *et al.*, 2020). In these contexts, questions about emotional well-being and influence are relevant, as workers can experience alienation, invisibility and loneliness to a greater degree (e.g. Martin *et al.*, 2014).

Future research could also focus less on emotional responses to episodic IT events, and the ways in which emotions affect the uptake and adoption of new technology, as we are now moving into an era of uubiquitous technology use. As technology blends into most aspects of work and blurs the distinction between work and non-work, we need more research on the ways in which emotions are affected by and influence, technology on an everyday basis. This is following from the perspective that emotions are crucial for human information processing, behaviour and adaptation (Lazarus, 1991). For instance, in our review we found some research on the "dark side" of AI and algorithmic management in the gig economy, which

potentially associated with human alienation and burnout (e.g. Bucher *et al.*, 2021) and thus, we need more research on how this can be prevented. Whilst new work practices have been made possible through technology (e.g. working from home, digital meetings, etc.), thereby providing autonomy and flexibility, they may also lead to a sense of isolation and loneliness (e.g. Abelsen *et al.*, 2021). Hence, more research is needed on how to balance various activities in the digital workplace for employees to thrive.

Some of the papers in this review explore the role of coping in the digital workplace (e.g. Stein *et al.*, 2015). However, as the concept of coping is very much situated in theories of stress, coping is a very broad category that includes the full range of behaviours an individual may engage in during challenging circumstances. The concept of emotional regulation (Gross, 1998) may, therefore, be better suited to capturing the more fine-grained ways in which individuals engage with their emotions as they navigate the digital workplace. Emotional regulation refers to the ways in which individuals influence the types of emotions they experience, when they experience them as well as how these emotions are expressed and experienced on an everyday basis. This may involve up-regulating or down-regulating aspects of both positive and negative emotional episodes in conscious or unconscious ways. This is also something that has been pointed at in a recent editor's comments in MIS Quarterly (Burton-Jones and Stein, 2021), where they emphasise the role of emotional awareness as a skill to navigate traumatic and emotionally significant events, such as COVID-19 and the ramifications of the pandemic for work and life, in general. They refer to emotional awareness as the ways in which individuals understand, describe and attend to their emotional experiences. A more complex understanding of emotions will allow individuals to become better at adapting to their circumstances, thereby broadening their repertoire of appropriate responses and behaviours. An important avenue for future research would, therefore, be the exploration of the ways in which emotional regulation or awareness may be taught as an intervention in order to help individuals navigate the digital workplace, so as to be able to prevent or to deal with negative consequences, such as alienation and burnout.

Methodologically, there are also opportunities. Whilst our special issue presents a mixture of both quantitative and qualitative methods, as aforementioned, the majority of the existing literature has relied on a positivist ontology and quantitative methods. This means that, despite the frameworks utilised in the papers we reviewed (such as appraisal theory by Lazarus and colleagues) having not assumed that emotions are fixed and intrinsic to the individual, the authors have still, directly or indirectly, taken on essentialist assumptions, such that emotions are seen as distinct and individual phenomena. Hence, more research is needed on the role of emotions in social processes and communication. Furthermore, and following from essentialist assumptions, it is taken for granted that emotions are easily accessible psychological states that people are ready to report, in a pre-identified format, such as a survey or experiment. Hence, in spite of some of the papers in this review, as well as in the special issue, having developed an understanding that emotions are psychologically (Barrett, 2016) and/or socially (Hochscield, 2012) constructed, there is still shortage of empirical studies in the field focussing on lived emotional experiences and how they are situated in the context of the digital workplace. In particular, and considering the short-lived and dynamic nature of emotions, we need more longitudinal studies, where informants are allowed to report and reflect upon, their emotions closer to the real time in which they are experienced. One example could be a diary study (e.g. Conway and Briner, 2002), aided by weekly or monthly prompts via email, text or social media along with ongoing observation (e.g. Urban and Quinlan, 2014). An alternative could be to extract digital data from communication and/or social media (e.g. Yammer) to observe employees' real time emotional experiences and expressions at work over time.

Last but not least, research is needed on gender differences in this area. Reychav *et al.* (2019) found that organisational pressures result in behaviour differences between men and women. Notably, they differ in how they communicate with one another and in the ways

in which they attempt to influence one another in enterprise social networks. With the exception of this study, there is lack of research on the emotional differences amongst male and female employees in digitalised workplaces.

It is our hope that this special issue serves as an inspiration for others to engage with research that examines the interplay between emotions and digitalised workplaces. More light needs to be shed on this important area that can impact either positively or negatively on the functioning of digitalised workplaces depending on how it is managed.

Niki Panteli
Royal Holloway University of London, Egham, UK, and

Fay Giæver and Jostein Engesmo
Norwegian University of Science and Technology, Trondheim, Norway

References

Abelsen, S.N., Vatne, S.H., Mikalef, P. and Choudrie, J. (2021), "Digital working during the COVID-19 pandemic: how task–technology fit improves work performance and lessens feelings of loneliness", *Information Technology and People*. doi: 10.1108/ITP-12-2020-0870.

Agogo, D. and Hess, T.J. (2018), "'How does tech make you feel?' A review and examination of negative affective responses to technology use", *European Journal of Information Systems*, Vol. 27 No. 5, pp. 570-599.

Ashkanasy, N.M. and Dorris, A.D. (2017), "Emotions in the workplace", *Annual Review of Organizational Psychology and Organizational Behavior*, No. 4, pp. 67-90.

Barrett, L.F. (2016), "The theory of constructed emotion: an active inference account of interoception and categorization", *Social Cognitive and Affective Neuroscience*, Vol. 12 No. 1, pp. 1-23, doi: 10.1093/scan/nsw154.

Barsade, S.G., Brief, A.P. and Spataro, S.E. (2003), "The affective revolution in organizational behavior: the emergence of a paradigm", in Greenberg, J. (Ed.), *Organizational Behavior: The State of the Science*, Lawrence Erlbaum Associates Publishers, pp. 3-52.

Beaudry, A. and Pinsonneault, A. (2010), "The other side of acceptance: studying the direct and indirect effects of emotions on information technology use", *MIS Quarterly*, pp. 689-710.

Bhattacherjee, A., Davis, C.J., Connolly, A.J. and Hikmet, N. (2018), "User response to mandatory IT use: a coping theory perspective", *European Journal of Information Systems*, Vol. 27 No. 4, pp. 395-414, doi: 10.1057/s41303-017-0047-0.

Bucher, E.L., Schou, P.K. and Waldkirch, M. (2021), "Pacifying the algorithm – anticipatory compliance in the face of algorithmic management in the gig economy", *Organization*, Vol. 28 No. 1, pp. 44-67, doi: 10.1177/1350508420961531.

Burnes, B. and Cooke, B. (2012), "Review Article: the past, present and future of organization development: taking the long view", *Human Relations*, Vol. 65, doi: 10.1177/0018726712450058.

Burton-Jones, A. and Stein, M.K. (2021), "Towards scholarly flourishing in the IS field: stories, reflection, and actions in an emotional time", *MIS Quarterly*, pp. iii-xvi.

Cascio, W.F. and Montealegre, R. (2016), "How technology is changing work and organizations", *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 3 No. 1, pp. 349-375, doi: 10.1146/annurev-orgpsych-041015-062352.

Chamakiotis, P., Panteli, N. and Davison, R.M. (2021), "Reimagining e-leadership for reconfigured virtual teams due to Covid-19", *International Journal of Information Management*, Vol. 60, 102381.

Chanias, S., Myers, M.D. and Hess, T. (2019), "Digital transformation strategy making in pre-digital organizations: the case of a financial services provider", *Journal of Strategic Information Systems*, Vol. 28 No. 1, pp. 17-33, doi: 10.1016/j.jsis.2018.11.003.

Constantinides, P., Henfridsson, O. and Parker, G.G. (2018), "Introduction - platforms and infrastructures in the digital age", *Information Systems Research*, Vol. 29 February, pp. 381-400, doi: 10.1287/isre.2018.0794.

Conway, N. and Briner, R.B. (2002), "A daily diary study of affective responses to psychological contract breach", *Journal of Organizational Behavior*, Vol. 23, pp. 287-302.

Dery, K., Sebastian, I.M. and van der Meulen, N. (2017), "The digital workplace is key to digital innovation", *MIS Quarterly Executive*, Vol. 16 No. 2, p. 135, available at: https://aisel.aisnet.org/misqe/vol16/iss2/4

Ding, Y. (2018), "Modelling continued use of information systems from a forward-looking perspective: antecedents and consequences of hope and anticipated regret", *Information and Management*, Vol. 55 No. 4, pp. 461-471, doi: 10.1016/j.im.2017.11.001.

D'Arcy, J., Herath, T. and Shoss, M.K. (2014), "Understanding employee responses to stressful information security requirements: a coping perspective", *Journal of Management Information Systems*, Vol. 31 No. 2, pp. 285-318.

Elie-Dit-Cosaque, C., Pallud, J. and Kalika, M. (2011), "The influence of individual, contextual, and social factors on perceived behavioural control of information technology: a field theory approach", *Journal of Management Information Systems*, Vol. 28 No. 3, pp. 201-234, doi: 10.2753/MIS0742-1222280306.

Endrissat, N. and Islam, G. (2021), "Hackathons as affective circuits: technology, organizationality and affect", *Organization Studies*. doi: 10.1177/01708406211053206.

Faraj, S., Kudaravalli, S. and Wasko, M. (2015), "Leading collaboration in online communities", *MIS Quarterly*, Vol. 39 No. 2, pp. 393-412, doi: 10.25300/MISQ/2015/39.2.06.

Faraj, S., von Krogh, G., Monteiro, E. and Lakhani, K.R. (2016), "Special section introduction—online community as space for knowledge flows", *Information Systems Research*, Vol. 27 No. 4, pp. 668-684.

Fineman, S., Maitlis, S. and Panteli, N. (2007), "Virtuality and emotion", *Human Relations*, Vol. 60, pp. 555-560.

Frijda, N.H. (2007), *The Laws of Emotion*, Lawrence Erlbaum Associates Publishers.

Gooty, J., Connelly, S., Griffith, J. and Gupta, A. (2010), "Leadership, affect and emotions: a state of the science review", *The Leadership Quarterly*, Vol. 21, pp. 979-1004.

Gross, J.J. (1998), "The emerging field of emotion regulation: an integrative review", *Review of General Psychology*, Vol. 2 No. 3, pp. 271-299.

Hochschild, A.R. (2012), *The Managed Heart*, University of California Press.

Johnson, S.L., Safadi, H. and Faraj, S. (2015), "The emergence of online community leadership", *Information Systems Research*, Vol. 26 No. 1, pp. 165-187.

Kim, J., Park, E.H. and Baskerville, R.L. (2016), "A model of emotion and computer abuse", *Information and Management*, Vol. 53 No. 1, pp. 91-108, doi: 10.1016/j.im.2015.09.003.

Lazarus, R.S. (1991), *Emotion and Adaptation*, Oxford University Press.

Lazarus, R.S. (2006), *Stress and Emotion: A New Synthesis*, Springer Publishing Company.

Lazarus, R.S. and Folkman, S. (1984), *Stress, Appraisal and Coping*, Springer Publishing Company, New York.

Lin, T.C., Huang, S.L. and Chiang, S.C. (2018), "User resistance to the implementation of information systems: a psychological contract breach perspective", *Journal of the Association for Information Systems*, Vol. 19 No. 4, pp. 306-332.

Lindebaum, D. and Jordan, P.J. (2014), "When it can be good to feel bad and bad to feel good: exploring asymmetries in workplace emotional outcomes", *Human Relations*, Vol. 67 No. 9, pp. 1037-1050, doi: 10.1177/0018726714535824.

Martin, D., Hanrahan, B.V., O'Neill, J. and Gupta, N. (2014), "Being a turker", *Proceedings of the 17th ACM Conference on Computer Supported Cooperative Work and Social Computing*, pp. 224-235, doi: 10.1145/2531602.2531663.

Meske, C. and Junglas, I. (2020), "Investigating the elicitation of employees' support towards digital workplace transformation", *Behaviour and Information Technology*, pp. 1-17.

Moqbel, M. and Kock, N. (2018), "Unveiling the dark side of social networking sites: personal and work-related consequences of social networking site addiction", *Information and Management*, Vol. 55 No. 1, pp. 109-119, doi: 10.1016/j.im.2017.05.001.

Ormond, D., Warkentin, M. and Crossler, R.E. (2019), "Integrating cognition with an affective lens to better understand information security policy compliance", *Journal of the Association for Information Systems*, Vol. 20 No. 12, pp. 1794-1843, doi: 10.17705/1jais.00586.

Ortiz de Guinea, A. (2016), "A pragmatic multi-method investigation of discrepant technological events: coping, attributions, and 'accidental' learning", *Information and Management*, Vol. 53 No. 6, pp. 787-802, doi: 10.1016/j.im.2016.03.003.

Ortiz de Guinea, A., Ryad, T. and Pierre-Majorique, L. (2014), "Explicit and implicit antecedents of users' behavioral beliefs in information systems: a neuropsychological investigation", *Journal of Management Information Systems*, Vol. 30 No. 4, pp. 179-210.

Ortiz de Guinea, A. and Webster, J. (2013), "An investigation of information systems use patterns: technological events as triggers, the effect of time, and consequences for performance", *MIS Quarterly*, Vol. 37 No. 4, pp. 1165-1188.

Panteli, N. and Sivunen, A. (2019), "I am your fan. Bookmarked! Members' identification development in founder-led online communities", *Journal of the Association of Information Systems*, Vol. 20 No. 6, pp. 830-847.

Panteli, N., Rapti, A. and Scholarios, D. (2020), "'If he just knew who we were': microworkers' emerging bonds of attachment in a fragmented employment relationship", *Work, Employment and Society*.

Pignot, E. (2021), "Who is pulling the strings in the platform economy? Accounting for the dark and unexpected sides of algorithmic control", *Organization*. doi: 10.1177/1350508420974523.

Rahman, M.S., Hossain, M.A., Abdel Fattah, F.A.M. and Ibne Mokter, A.M. (2021), "Avoidance behaviour towards using pirated software: testing a seven-component model on SME employees", *Information Technology and People*, Vol. 35 No. 1, pp. 316-343, doi: 10.1108/ITP-12–2019-0621.

Razmerita, L., Peroznejadi, A., Panteli, N. and Karreman, D. (2021), "Adapting to the enforced remote work in the Covid 19 pandemic", *34th Bled eConference Digital Support from Crisis to Progressive Change*, June 27-30.

Reychav, I., Inbar, O., Simon, T., McHaney, R. and Zhu, L. (2019), "Emotion in enterprise social media systems", *Information Technology and People*, Vol. 32 No. 1, pp. 18-46.

Rothman, N.B. and Melwani, S. (2017), "Feeling mixed, ambivalent, and in flux: the social functions of emotional complexity for leaders", *Academy of Management Review*, Vol. 42 No. 2, pp. 259-282.

Russell, J.A. and Barrett, L.F. (1999), "Core affect, prototypical emotional episodes, and other things called *emotion:* dissecting the elephant", *Journal of Personality and Social Psychology*, Vol. 76 No. 5, pp. 805-819.

Sarker, S., Chatterjee, S., Xiao, X. and Elbanna, A. (2019), "The sociotechnical 'Axis of cohesion' for the IS discipline: its historical legacy and its continued relevance", *MIS Quarterly*, Vol. 43 No. 3, pp. 695-719.

Stein, M.K., Newell, S., Wagner, E.L. and Galliers, R.D. (2014), "Felt quality of sociomaterial relations: introducing emotions into sociomaterial theorizing", *Information and Organization*, Vol. 24 No. 3, pp. 156-175, doi: 10.1016/j.infoandorg.2014.05.003.

Stein, M., Newell, S., Wagner, E.L. and Galliers, R.D. (2015), "Coping with information technology: mixed emotions, vacillation, and nonconforming use patterns", *MIS Quarterly*, Vol. 39 No. 2, pp. 367-A6.

Trist, E.L. and Bamforth, K.W. (1951), "Some social and psychological consequences of the longwall method of coal-getting", *Human Relations*, Vol. 4 No. 1, pp. 3-38.

Urban, A.-M. and Quinlan, E. (2014), "Not for the faint of heart Insider and outsider shadowing experiences within Canadian health care organizations", *Qualitative Research in Organizations and Management: An International Journal*, Vol. 9 No. 1, pp. 47-65.

vom Brocke, J., Hevner, A., Leger, P.M., Walla, P. and Riedl, R. (2020), "Advancing a NeuroIS research agenda with four areas of societal contributions", *European Journal of Information Systems*, Vol. 29 No. 1, pp. 9-24, doi: 10.1080/0960085X.2019.1708218.

Waizenegger, L., McKenna, B., Cai, W. and Bendz, T. (2020), "An affordance perspective of team collaboration and enforced working from home during COVID-19", *European Journal of Information Systems*, Vol. 29 No. 4, pp. 429-442.

Wang, N.T., Carte, T.A. and Bisel, R.S. (2020), "Negativity decontaminating: communication media affordances for emotion regulation strategies", *Information and Organization*, Vol. 30 No. 2, doi: 10.1016/j.infoandorg.2020.100299.

Willison, R., Warkentin, M. and Johnston, A.C. (2018), "Examining employee computer abuse intentions: insights from justice, deterrence and neutralisation perspectives", *Information Systems Journal*, Vol. 28 No. 2, pp. 266-293, doi: 10.1111/isj.12129.

Yoo, Y. (2010), "Computing in everyday life: a call for research on experiential computing", *MIS Quarterly*, Vol. 34 No. 2, p. 213, doi: 10.2307/20721425.

Zhang, P. (2013), "The affective response model: a theoretical framework of affective concepts and their relationships in the ICT context", *MIS Quarterly*, Vol. 37 No. 1.

Zhao, X., Xia, Q. and Huang, W. (2020), "Impact of technostress on productivity from the theoretical perspective of appraisal and coping processes", *Information and Management*. doi: 10.1016/j.im.2020.103265.

Papers in literature review

Abelsen, S. N., Vatne, S. H., Mikalef, P., and Choudrie, J. (2021). Digital working during the COVID-19 pandemic: how task–technology fit improves work performance and lessens feelings of loneliness. *Information Technology and People*. https://doi.org/10.1108/ITP-12-2020-0870

Agogo, D., and Hess, T. J. (2018). "How does tech make you feel?" a review and examination of negative affective responses to technology use. *European Journal of Information Systems*, 27(5), 570–599. https://doi.org/10.1080/0960085X.2018.1435230

Beaudry, A., and Pinsonneault, A. (2010). The Other Side of Acceptance: Studying the Direct and Indirect Effects of Emotions on Information Technology Use. *MIS Quarterly*, 34(4), 689–710

Bhattacherjee, A., Davis, C. J., Connolly, A. J., and Hikmet, N. (2018). User response to mandatory IT use: a coping theory perspective. *European Journal of Information Systems*, 27(4), 395–414. https://doi.org/10.1057/s41303-017-0047-0

Bucher, E. L., Schou, P. K., and Waldkirch, M. (2021). Pacifying the algorithm – Anticipatory compliance in the face of algorithmic management in the gig economy. *Organization*, 28(1), 44–67. https://doi.org/10.1177/1350508420961531

Burns, A. J., Roberts, T. L., Posey, C., and Benjamin Lowry, P. (2019). The Adaptive Roles of Positive and Negative Emotions in Organizational Insiders' Security-Based Precaution Taking. *Information System Journal*, 30(4), 1228-1247. https://doi.org/10.1287/isre.2019.0860

D'Arcy, J., Herath, T., and Shoss, M. K. (2014). Understanding Employee Responses to Stressful Information Security Requirements: A Coping Perspective. *Journal of Management Information Systems*, 31(2), 285–318. https://doi.org/10.2753/MIS0742-1222310210

Ding, Y. (2018). Modelling continued use of information systems from a forward-looking perspective: Antecedents and consequences of hope and anticipated regret. *Information and Management*, 55(4), 461–471. https://doi.org/10.1016/j.im.2017.11.001

Elie-Dit-Cosaque, C., Pallud, J., and Kalika, M. (2011). The influence of individual, contextual, and social factors on perceived behavioural control of information technology: A field theory approach. *Journal of Management Information Systems* (Vol. 28, Issue 3, pp. 201–234). https://doi.org/10.2753/MIS0742-1222280306

Endrissat, N., and Islam, G. (2021). Hackathons as Affective Circuits: Technology, organizationality and affect. *Organization Studies*. https://doi.org/10.1177/01708406211053206

Kelly, S., and Noonan, C. (2008). Anxiety and psychological security in offshoring relationships: The role and development of trust as emotional commitment. *Journal of Information Technology*, 23(4), 232–248. https://doi.org/10.1057/jit.2008.15

Kim, J., Park, E. H., and Baskerville, R. L. (2016). A model of emotion and computer abuse. *Information and Management*, 53(1), 91–108. https://doi.org/10.1016/j.im.2015.09.003

Liang, H., and Xue, Y. (2009). Avoidance of Information Technology Threats: A Theoretical Perspective Quarterly ^h^hb Avoidance of Information Technology Threats: a theoretical perspective1. In *Source: MIS Quarterly* (Vol. 33, Issue 1)

Lin, T. C., Huang, S. L., and Chiang, S. C. (2018). User resistance to the implementation of information systems: A psychological contract breach perspective. *Journal of the Association for Information Systems*, 19(4), 306–332. https://doi.org/10.17705/1jais.00493

Moqbel, M., and Kock, N. (2018). Unveiling the dark side of social networking sites: Personal and work-related consequences of social networking site addiction. *Information and Management*, 55(1), 109–119. https://doi.org/10.1016/j.im.2017.05.001

Table A1.
Full list of papers from
literature review

(*continued*)

Papers in literature review

Ormond, D., Warkentin, M., and Crossler, R. E. (2019). Integrating cognition with an affective lens to better understand information security policy compliance. *Journal of the Association for Information Systems*, *20*(12), 1794–1843. https://doi.org/10.17705/1jais.00586

Ortiz de Guinea, A., and Markus, L. (2009). Why break the habit of a lifetime? Rethinking the roles of intention, habit, and emotion in continuing information technology use. *MIS Quarterly*, *33*(3), 433–444. https://doi.org/10.2307/20650303

Ortiz de Guinea, A., and Webster, J. (2013). An Investigation of Information Systems Use Patterns: Technological Events as Triggers, the Effect of Time, and Consequences for Performance. *MIS Quarterly*, *37*(4), 1165–1188

Ortiz de Guinea, A., Titah, R., and Léger, P. M. (2014). Explicit and implicit antecedents of users' behavioural beliefs in information systems: A neuropsychological investigation. *Journal of Management Information Systems*, *30*(4), 179–210. https://doi.org/10.2753/MIS0742-1222300407

Ortiz de Guinea, A. (2016). A pragmatic multi-method investigation of discrepant technological events: Coping, attributions, and "accidental" learning. *Information and Management*, *53*(6), 787–802. https://doi.org/10.1016/j.im.2016.03.003

Pignot, E. (2021). Who is pulling the strings in the platform economy? Accounting for the dark and unexpected sides of algorithmic control. *Organization*. https://doi.org/10.1177/1350508420974523

Rahman, M. S., Hossain, M. A., Abdel Fattah, F. A. M., and Ibne Mokter, A. M. (2021). Avoidance behaviour towards using pirated software: testing a seven-component model on SME employees. *Information Technology and People*, *35*(1), 316–343. https://doi.org/10.1108/ITP-12–2019-0621

Reychav, I., Inbar, O., Simon, T., McHaney, R., and Zhu, L. (2019). Emotion in enterprise social media systems. *Information Technology and People*, *32*(1), 18–46. https://doi.org/10.1108/ITP-05-2018-0213

Stein, M. K., Newell, S., Wagner, E. L., and Galliers, R. D. (2014). Felt quality of sociomaterial relations: Introducing emotions into sociomaterial theorising. *Information and Organization*, *24*(3), 156–175. https://doi.org/10.1016/j.infoandorg.2014.05.003

Stein, M., Newell, S., Wagner, E. L., and Galliers, R. D. (2015). Coping with Information Technology: Mixed Emotions, Vacillation, and Nonconforming Use Patterns. *MIS Quarterly*, *39*(2), 367-A6

vom Brocke, J., Hevner, A., Léger, P. M., Walla, P., and Riedl, R. (2020). Advancing a NeuroIS research agenda with four areas of societal contributions. *European Journal of Information Systems*, *29*(1), 9–24. https://doi.org/10.1080/0960085X.2019.1708218

Walsh, I., Gettler-Summa, M., and Kalika, M. (2016). Expectable use: An important facet of IT usage. *Journal of Strategic Information Systems*, *25*(3), 177–210. https://doi.org/10.1016/j.jsis.2016.01.003

Wang, W., Zhao, Y., Qiu, L., and Zhu, Y. (2014). Effects of emoticons on the acceptance of negative feedback in computer-mediated communication. *Journal of the Association for Information Systems*, *15*(8), 454–483. https://doi.org/10.17705/1jais.00370

Wang, N. (Tina), Carte, T. A., and Bisel, R. S. (2020). Negativity decontaminating: Communication media affordances for emotion regulation strategies. *Information and Organization*, *30*(2). https://doi.org/10.1016/j.infoandorg.2020.100299

Willison, R., and Warkentin, M. (2013). Beyond Deterrence: An Expanded View of Employee Computer Abuse. In *Source: MIS Quarterly* (Vol. 37, Issue 1)

Willison, R., Warkentin, M., and Johnston, A. C. (2018). Examining employee computer abuse intentions: insights from justice, deterrence and neutralisation perspectives. *Information Systems Journal*, *28*(2), 266–293. https://doi.org/10.1111/isj.12129

Zhang, P. (2013). The Affective Response Model: A Theoretical Framework of Affective Concepts and Their Relationships in the ICT Context. In *Source: MIS Quarterly* (Vol. 37, Issue 1)

Zhao, X., Xia, Q., and Huang, W. (2020). Impact of technostress on productivity from the theoretical perspective of appraisal and coping processes. *Information and Management*. https://doi.org/10.1016/j.im.2020.103265

Table A1.