Private ICT-Activities and Emotions at Work – A Swedish Diary Study

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ABSTRACT
The boundaries between the work and non-work spheres have been challenged through the rapid development of information and communication technology (ICT). Individuals may easily engage in non-work (family and private) matters at work and during working hours. Prior research on emotions at work tends to understand all emotions at work as work related. By studying non-work matters managed through ICT in a diary study, we suggest that emotions at work are triggered both by work and non-work matters. Our research shows that these emotions can be both positive and negative and may come from actual engagement in private matters, or as a response to a need or a demand to address a private matter. Since emotions affect work performance, for example, we suggest that HR and managers take the causes of workplace emotions into consideration when addressing issues related to emotions at work.

KEYWORDS
Affective event theory / boundary theory / diary study / emotions / HR / ICT / management / private / triggers / work / workplace

Introduction
Workplace-related emotions have been the focus of studies of emotions at work (e.g., Ashkanasy & Dorris 2017; Brief & Weiss 2002; Fisher 2010; Fisher & Ashkanasy 2000; Fredrickson 2003; Weiss & Cropanzano 1996; Xanthopoulou et al. 2009). Simply put, emotions at the workplace have been assumed to be related to work – to the task at hand or to relations with colleagues, clients or managers. On the contrary, in this article, we argue that emotions that suddenly appear at work may just as well emanate from the non-work sphere. Today, non-work related emotions are not only brought from home as described by spillover theory (Grzywacz et al. 2002;
Kinnunen et al. 2006) but can also appear directly at work through ICT-mediated non-work activities, such as conversing with a child through Snapchat. Our argument is that when the two spheres of private life and work are integrated by ICT activities, emotional patterns at work can change several times per day. Hence, there is a need for a deeper understanding of the intensity, duration and variety of emotions experienced at work. Relatedly, we want to better understand to what extent digitally mediated matters from the non-work sphere affect different emotions at work, and what kind of matters these are. By connecting boundary theory with research focusing on emotions at work, this study contributes to filling the present gap in knowledge.

Positive and negative emotions affect people at work in different ways (Xanthopoulou et al. 2012) and therefore some managers and HR strive to organize work in a way that promotes positive emotions. If the emotions that emanate from the private sphere are not taken into consideration as important causes, there is a risk that these efforts remain ineffectual, and for this reason, research is needed in this specific area. Previous research studying how private life intervenes in work life has focused on conflicts and negative emotions like stress, for example, work–home conflicts (e.g., Greenhaus & Beutell 1985; Hill et al. 2014; Kreiner et al. 2009; Sanz-Vergel et al. 2015, Schieman et al. 2003), family-to-work interference (Anand et al. 2014; Frone et al. 1992), and spillover (Grzywacz et al. 2002; Kinnunen et al. 2006). ICT enables private and family matters to reach into working life (Rose 2013), and since the Nordic working life is built on a dual earner model (Öun 2012), research on the positive and negative emotional effects of managing non-work matters through ICT at work is motivated.

Consequently, in this study, we explore how addressing private matters via ICT trigger positive and negative emotions at work. We use Salovey and Mayer’s (1990, p. 186) definition of emotions as organized responses, crossing boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems. Emotions typically arise in response to an event, either internal or external, that has a positively or negatively valenced meaning for the individual.

Furthermore, we follow the thoughts of Ashforth and Humprey (1995) in understanding that individual differences in traits, beliefs, values, goals, etc., influence how an event is interpreted, meaning that individuals can experience the same event differently. This study includes the so-called basic emotions (e.g., stress, frustration, energy that may vary widely in terms of their intensity, duration, consistency, and valence). Using Pindek et al.’s (2019) description of episodic stress, we understand all basic emotions as potentially episodic. Focusing on episodic emotions in work is also suggested by Brief and Wiess (2002). Episodic emotions of stress are responses to events that may occur occasionally or often and are not necessarily enduring aspects of the job (cf. Pindek et al. 2019). Just as episodic stress can provide understanding of the link between stressful workplace conditions (i.e., stressors) and the strain experienced (i.e., psychological and physical decrements to wellbeing), we argue that studies of positive and negative basic episodic emotions can provide an understanding of the relation between triggers and their emotional effects in the digital working life.

Our overall aim is to contribute to the understanding of emotions in the digitalized interface between non-work and work. We seek to (1) identify and understand
the emotional effects of non-work ICT-mediated boundary-crossing activities at work; (2) contribute to the scientific discussion of emotions in the digital working life; and (3) aid practitioners by giving advice to managers and HR on understanding and managing emotions at work.

Our analysis centers on ICT-mediated boundary-crossing activities and how different emotions manifested at work emanate from the non-work sphere. The non-work sphere has many dimensions but is here divided into two: private and family. The private sphere comprises personal activities like chatting with a friend or taking a break using a digital device, like surfing on social media, while the family dimension concern family interactions, like chatting with a partner or booking a dentist appointment for one’s child. A qualitative research methodology was used, including employees and managers at three different industrial companies in Sweden. They registered emotions and boundary-crossing activities with digital technology in an activity diary seven times a day for seven consecutive days. To our knowledge, this is one of the first studies that examines both positive and negative emotions from the non-work sphere in the work sphere mediated through ICT activities using a close-up diary method.

The main contribution of this article is to the research field of emotions at work and work–life research. First, since research on emotions at work has focused on work-related emotions, this article contributes knowledge on emotions triggered by non-work matters but manifested at work. By doing so, we open up for a more nuanced way of understanding how emotions at work could be understood and managed. Second, engaging in private matters at work may cause positive emotions and because positive emotions at work may enhance performance and self-esteem, engaging in private matters at work could be viewed differently by colleagues and managers. Third, the experience of control (low vs. high) over when and how to interact with a private matter is important in determining whether its emotional effect is positive or negative.

Theory

In this section, we explore the concepts of boundary theory, boundary control, and emotions at work as a base for analyzing and discussing the results.

Boundary theory and boundary control

The basis of boundary theory is that individuals create and maintain boundaries as a means of simplifying and ordering their environment (Ashforts et al. 2000). Through the boundaries, different social domains are created, for example, work and home (Nippert-Eng 1996). Nippert-Eng also showed that boundaries are idiosyncratically constructed, meaning that, for example, one person allows home to cross over into work, while others do not. Boundaries can also be socially conceptualized along a continuum from weak (permeable) to strong (impermeable) (Chesley 2014). Individuals with permeable boundaries integrate work and home domains, whereas individuals with impermeable boundaries segmentate the different domains (Ashforths et al. 2000). Furthermore, collectives can develop shared norms regarding the permeability of given domains (Kreiner 2006). In other words, organizations might differ on the extent to which the work–home
boundary is treated as permeable or impermeable and may therefore hinder and/or help employees to create their personally preferred levels of segmentation (Derks et al. 2015) or integration. In the digital era, Bergman et al. (2020) have shown that individuals adopt different digital strategies to manage the boundaries between work and private life and that they evolve through their own will, external causes, or a mix of both.

There are a number of boundary behavior styles (e.g., Kossek 2016), and according to Fleck et al. (2015) and Mellner et al. (2015), what is central for wellbeing is not so much the type of strategy that is implemented, but the perceived sense of boundary control. An example of low boundary control is if a person prefers to keep evenings free from work but is unable to do so (due to work demands). An employee’s ability to make autonomous decisions about how to meet and interact with the demands from both the work and non-work domains implies an increased feeling of being in control (Anderson & Kelliher 2011; Mellner et al. 2015; Ter Hoeven & van Zoonen 2015; Thulin 2019). A sense of control is a generally accepted theoretical foundation for explaining work-related stress, or conversely wellbeing and learning (Karasek & Theorell 1990).

When boundaries are created around different domains, people also tend to draw boundaries around roles, for example, that of employee, parent, or partner (Ashforths et al. 2000). Crossing the boundaries between work and home holds a latent so-called role conflict. Roles tend to be bound in both space and time, that is, they are more active in certain physical locations and at certain times of the day and week. Elwin-Novak (1998) and Ojala et al. (2014) argued that not being able to be there for work and family can generate feelings of failure and guilt. Another way to understand this is that people manage a combination of identities, and two central identities relevant for our study are work identity and family identity (Meeussen et al. 2016). Meeussen et al. argued that these identities are dependent on the individual’s gender identity, for example, young women, more than young men, aimed to model their career ambitions on a male career, while keeping their family aspirations high. Young men showed lower family aspirations in the face of strong male career norms in line with traditional gender roles. Galvin et al. (2011) studied emotional responses to the blurring of work and family roles with harmful psychological health effects. They found a gender difference; women experienced more emotions of guilt and stress when having frequent contact with work at home.

It is likely that the equality culture (national, business segmentation, organizational, and family cultures) not only affects the amount and types of boundary-crossing activities, but also the emotions related to them. The context in which cross-boundary emotions are studied is thus important. According to Leira (2006) and Öun (2012), the extensive support for paid parental leave in combination with a well-developed public day-care for young children is a main explanatory factor behind the dual earner/dual career model in the Nordic countries. In the Nordic countries, an even distribution of work and caregiving between women and men are promoted through regulation, transfers and taxation (Grönlund & Öun 2018; Öun 2012). In the Nordic countries, men’s greater responsibility for the family (including direct caregiving) combined with women’s employment and economic autonomy has been called “double emancipation” (e.g., Holth et al. 2017; Klinth 2002). Therefore, dual earner and dual caregiver norms are more widespread in Nordic countries than in other countries (Edlund & Öun 2016; Öun, 2012) and lead to more equal opportunities for women and men to shape their own lives and society. Nevertheless, women still carry a large responsibility for household, children, and older relatives (Öun 2012).
Emotions at work

Emotions are part of our everyday lives, both in the work and home domains. Nevertheless, emotions have largely been neglected in research on work until Hochschild’s seminal work on emotional labor (1983). Her study focused on how the emotions of service workers were formed and exploited by the employer and not on emotions and boundary work. One reason why research on emotion at work is relatively new, is that emotionality has been regarded as the antithesis of rationality (Ashforth & Humphrey 1995) and therefore the antithesis of homo economicus. Instead, emotions could (and should) be the natural and inseparable accompaniment to all activities and prerequisites for strong motivation and psychological involvement (Ashforth & Humphrey 1995), and therefore are also interesting in the work context.

Studying emotions in the workplace can potentially increase understanding of behavior in organizations (Fisher & Ashkansay 2000; Hochschild 1983; Weiss & Cropanzano 1996). Affective events theory (AET), developed by Weiss and Cropanzano (1996), explains how events in the workplace lead to emotions that in turn affect individual work attitudes and behaviors. Their focus is not on classic work environment aspects, but on proximal events that create emotional reactions. AET also considers the temporal aspect, that is, how intrapersonal emotions change over time. Weiss and Cropanzano have also learnt that these emotional patterns often are predictable and build on Frijda’s (1993) idea that a strong emotion seldom can be explained as only one emotion, but rather as an episode of emotions with one stronger underlying emotion. Weiss and Cropanzano argue that cognitive resources may be spent on this underlying emotion instead of on the work tasks, thus hampering job performance. They also argued that the underlying emotional engagement may lead to misinterpretation of events and that small and insignificant events may be given greater attention. Furthermore, Weiss and Cropanzano (1996) argued that the emotional experiences at work affect overall assessment and judgement of work satisfaction. In addition, they found that emotions are related to job performance in three alternative ways: (1) emotions may be incompatible with the work tasks or use cognitive resources so that they negatively affect job performance; (2) emotions facilitate work and therefore also enhance job performance; and (3) emotions do not affect performance at all.

Most research on emotions at work has focused on positive and/or negative emotions (Ashkanasy & Dorris 2017) and their effects on work. Negative emotions can, for example, account for low job satisfaction, poor performance, absenteeism, turnover, and even vandalism (Barsade & O’Neill 2016; Judge & Larsen 2001; Martocchio & Jimeno 2003). Fredrickson (2003) has shown that positive emotions over a longer period build personal resources, and later research by Xanthopoulou et al. (2009) has shown more short-term effects. They showed that the more positive emotions, like engagement, a person experiences during a day, the higher their levels of self-efficacy, self-esteem, and optimism are during the same workday. Moreover, research has shown that positive emotions are beneficial not only to the individual, but also to the organization they work for by, for example, enhancing performance and quality (Barsade & O’Neill 2016; Fisher 2010). Furthermore, Xanthopoulou et al. (2009) found that daily job resources, for example, day-level coaching, are more powerful than general resources in affecting
emotions, meaning that everyday work is important to study in order to understand emotions.

In summary, emotions and boundary control are well studied in their separate domains, but further research is needed on their interaction. We therefore explore the emotional effects on ICT-mediated boundary-crossing activities in the digital working life.

**Method**

This study is part of a larger research project with multiple data sources: a pen and paper activity diary, individual interviews with employees, HR and managers, family interviews with the employees and their partners and children, and workshops with managers and employees. In this article, we use the diary as a base for our analysis and discussion, but some understanding also come from the interviews.

As suggested by Ashkanasy and Dorris (2017), an activity diary was developed to collect data on ICT-mediated boundary-crossing activities between work and private life and related emotions. In this study, we focus on the non-work activities performed at work and in another study, we focused on the emotion on stress, to discuss sustainability in Human Resource Management (HRM) in the blurred digital working life (Palm et al. 2020). Furthermore, the diary has also been analyzed to consider two other dimensions besides emotions: individual strategies for handling the relation between work and home (Bergman et al. 2020) and micro-technological strategies for handling the relation between work and home (Rosengren et al., Forthcoming).

**Activity diary**

During seven days, respondents logged how they (1) completed digital activities related to the private sphere while being in the working sphere (e.g., speaking on the phone with a partner or child, or booking a doctor's appointment); and (2) performed work tasks (e.g., reading and answering emails on the phone or preparing meetings on the computer) while being in the private sphere. The diary (Bergman et al. 2017) comprises the kind of task performed, the technology used, the duration of the task, when and where it was performed, who else was in the room at the time, and the emotion experienced while doing the task. The diary is divided into seven daily time slots. The respondents also summarized each time slot with their general emotional state(s): “on top of things,” stressed, calm, creative, chaotic, engaged, frustrated, bored, confused, energetic, and tired. We chose emotions that are not the result of psychiatric disorders. Respondents could also mark “something else” and enter an emotional state using their own words and comment on the time slot with a free-text answer. The diary started with information about how it is to be completed, basic questions (name, age, gender, family constellation, and type of employment agreement) and an example entry. See example pages in appendix. In this article, we have chosen to focus only on the private activities made during working hours since the research on how private activities at work affect emotions are scarce.
Context, participants, and collection of data

Three industrial companies participated in the study: (1) a Swedish site of a global science-led biopharmaceutical business, “The Pharma”; (2) a Swedish site of a global developer and supplier of technologies, automation and services for the pulp, paper and energy industries, “The Tech”; and (3) a site of a Swedish forest and pulp production company, “The Pulp.”

The first inclusion criterion was that the participants should be able to locate part of their work outside the workplace and outside normal office hours. Blue-collar workers were also included, but in a smaller number. The second to fourth inclusion criteria were that they should be employees, managers, or HR representatives, with an overweight on employees, evenly distributed among women and men, and four life stages. The life stages were based on chronologic (years lived) and social age (social role/function in the society, e.g., child, parent, and worker) and represent individuals without children, with children of different ages and with older parents. The chosen life stages follow the chronological ages: 24–34, 35–44, 45–54, and 55–67.

We asked HR for lists of people corresponding to the above inclusion criteria and from that list individuals were chosen for contact. In that way, HR did not know who participated in the study. Emails with information about the project were sent to the people chosen from the lists we received from the companies. Individual 10-minute meetings were booked with those who accepted our invitation to participate in the study. At the meeting (held at their workplace), we went through the diary and how to complete it. The participants were told to send/hand the diary back to the researcher as soon as they could. In total, 33 diaries were collected from employees in four types of work functions: (1) engineering roles such as process engineer, (2) support functions such as quality assurance officer, (3) managerial roles such as project manager, and (4) blue-collar roles such as machine operator. Most or all of the participants worked in collaborative roles and the work culture was described as open in the sense that questions about, for example, availability were discussed in the working groups and together with managers. Management was in general described as democratic and participatory and we regard the relatively open answers in the activity diary, that is, how they managed private activities in the workplace, as a confirmation of this climate.

Processing and analyzing the data

The diaries were copied, and the originals were returned to the participants. After the diaries were copied, the data were transcribed by the three authors into a Word file according to a common structure. The next step involved entering all emotions participants experienced into schemes. The emotions were divided using different colors and nuances illustrating a continuum from “on top of things” (light green) to “stressed” (red). The emotions were also divided into positive and negative affective intensity and positive and negative affective tranquility inspired by Russell and Carroll (1999) and Watson and Tellegen (1985), as a broader way of describing the emotions discussed in this paper (see Figure 1).

The scheme presents each day, each time slot, and the emotions experienced. When participants added comments, these were also entered into the scheme making it possible to connect emotions with special comments. Figure 2 is an example of an emotion scheme where ordinary working hours (7 a.m.–5 p.m.) Monday–Friday is presented.
**Figure 1** Positive and negative affective tranquility and positive and negative affective intensity.

<table>
<thead>
<tr>
<th>Affective Tranquility</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Calm</td>
<td>Confused</td>
</tr>
<tr>
<td></td>
<td>On top of things</td>
<td>Tired</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bored</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Affective Intensity</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Creative</td>
<td>Frustrated</td>
</tr>
<tr>
<td></td>
<td>Energetic</td>
<td>Chaotic</td>
</tr>
<tr>
<td></td>
<td>Engaged</td>
<td>Stressed</td>
</tr>
</tbody>
</table>

**Figure 2** Example of an emotion scheme representing ordinary working hours (7 a.m.–5 p.m.) Monday–Friday.

<table>
<thead>
<tr>
<th>Day/Time</th>
<th>7–9 am</th>
<th>9–12 am</th>
<th>12–3 pm</th>
<th>3–5 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>–</td>
<td>On top of things</td>
<td>Calm</td>
<td>Frustrated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calm</td>
<td>Frustrated</td>
<td>Calm</td>
</tr>
<tr>
<td>Comment</td>
<td>–</td>
<td>While waiting for the computer to think I quickly checked my private phone</td>
<td>While waiting for the computer to think I quickly checked my private phone. Felt the need to answer some messages in a chat group but didn’t have time. Only reading.</td>
<td>Bored for a minute, did a quick news check</td>
</tr>
<tr>
<td>Tuesday</td>
<td>On top of things</td>
<td>On top of things</td>
<td>Bored</td>
<td>Tired</td>
</tr>
<tr>
<td></td>
<td>Creative</td>
<td>Calm</td>
<td>Bored</td>
<td>Calm</td>
</tr>
<tr>
<td></td>
<td>Engaged</td>
<td>Frustrated</td>
<td>Engaged</td>
<td>Bored</td>
</tr>
<tr>
<td></td>
<td>Energetic</td>
<td>Chaotic</td>
<td>Bored</td>
<td>Bored</td>
</tr>
<tr>
<td>Comment</td>
<td>–</td>
<td>Sent/checked Snapchat with colleagues once in a while. Communicated about a coffee break.</td>
<td>Needed entertainment after a boring meeting after lunch. Meeting on Skype, didn’t need to be active. Took the opportunity to arrange a private matter!</td>
<td>Print an important document. Important phone call I needed to answer at the housing cooperative</td>
</tr>
</tbody>
</table>
A thematic analysis was made on the comments regarding the performance of non-work activities in the work sphere and resulted in three themes: one related to family and two to private life. Gender and age were considered. All diaries were analyzed, but seven participants did not connect emotions to their activities and are therefore not included in this analysis. Table 1 shows the final participants in the analysis.

<table>
<thead>
<tr>
<th>Day/Time</th>
<th>7–9 am</th>
<th>9–12 am</th>
<th>12–3 pm</th>
<th>3–5 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>–</td>
<td>Creative Energetic other/happy</td>
<td>On top of things Engaged Energetic</td>
<td>–</td>
</tr>
<tr>
<td>Comment</td>
<td>–</td>
<td>A colleague and I answered another colleague via Snapchat</td>
<td>A lot of work, did not use my private [phone] at all. Engaging group meeting between 1 and 3 PM</td>
<td>Needed to leave at 4 PM to take care of a private matter. Keeping track on my work phone in case something happens</td>
</tr>
<tr>
<td>Thursday</td>
<td>On top of things Calm Energetic</td>
<td>On top of things Stressed Creative Energetic</td>
<td>On top of things Calm Energetic</td>
<td>On top of things Calm Engaged Energetic</td>
</tr>
<tr>
<td>Comment</td>
<td>–</td>
<td>Brought my computer to a work meeting to do other work tasks. The meeting only partly involved me. Felt good managing important tasks instead of wasting 1 h.</td>
<td>Checked my private phone when I went somewhere</td>
<td>Left earlier because of a work activity. Checked my email on the way.</td>
</tr>
<tr>
<td>Friday</td>
<td>On top of things Calm Engaged Energetic</td>
<td>Stressed Frustrated Energetic</td>
<td>On top of things Creative Engaged Tired</td>
<td>Bored Tired</td>
</tr>
<tr>
<td>Comment</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>Friday tiredness, bored towards the end.</td>
</tr>
</tbody>
</table>

A thematic analysis was made on the comments regarding the performance of non-work activities in the work sphere and resulted in three themes: one related to family and two to private life. Gender and age were considered. All diaries were analyzed, but seven participants did not connect emotions to their activities and are therefore not included in this analysis. Table 1 shows the final participants in the analysis.

**Table 1** List of participants analyzed in this paper

<table>
<thead>
<tr>
<th>Total no.</th>
<th>The Pharma</th>
<th>The Tech</th>
<th>The Pulp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Women</td>
<td>6</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24–34</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>35–44</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>45–54</td>
<td>7</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>55–67</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Results

The following section presents private activities made during working hours. The activities are presented in three themes, one is related to family and two to private life and all themes are exemplified with diary extracts (quotations). The result section is finalized with an analysis of emotions through the lens of control.

Family interactions – dominated by positive affective tranquility

One pattern in the empirical data was that employees, both men and women, and especially employees with children living at home, were available for their families at work during working time. These private activities were understood as an ordinary part of the working day, and most often connected with positive feelings. Another general pattern was that the availability and the interaction was made on the smartphone, either the private phone or the phone owned and paid by the employer. The private activity could be initiated by either the employee or a family member. As we have seen in the family interviews (Bergman et al. 2020), the level of interaction with the family was often a result of how the responsibilities for children were divided between the parents and more specifically, who had the main responsibility for being available for children during the workday.

For some respondents, family related interactions were carried out at work the whole week from Monday to Friday, from early morning at 7 a.m. until the afternoon at 5 p.m. These were often short activities such as a quick chat or SMS with a child or a partner coordinating, for example, a lunch, evening date, or buying a ticket. If the activity was carried out at the same time as the respondents were doing something engaging at work, it was perceived as unproblematic for them. As the diary entry below shows, the emotions reported were positive: “on top of things” and engaged:

Tuesday, 3–5 pm, ‘on top of things,’ engaged: ‘Together with a working group I worked on management group development. Managed a private phone call with my younger daughter.’ (male aged 51, The Pulp)

When the private activity involved solving a misunderstanding about a doctor’s appointment for a child or difficulties resolving private logistics, it was associated with stress, confusion and chaos:

Wednesday, 12–3 pm, stressed, chaotic, confused: Hassle due to a misunderstanding about picking up a child and the older daughter’s doctor’s appointment. (male aged 30, The Tech)

The results indicate that family interactions at work are non-gendered, meaning that both men and women carry them out. This pattern is most likely a result of the Nordic dual earner model.

Private breaks using digital technology – dominated by positive affective tranquility

Private activities are divided into two themes, one is about self-initiated digital activities, so called digital breaks, and the other is a result of others’ expectations. The first is described here and the second in the following section.
The private breaks can be divided into five types of breaks: waiting for something or someone, being in control and having time over, being bored, digital breaks in relation to lunch, coffee and toilet breaks, and finally digital breaks when someone has been in a meeting for a long time. The first type is about waiting and could either be waiting for the computer “to think” or wait for someone, for example, a colleague that is late. Here, the digital breaks were perceived as helping the respondents to make the time pass. Digital breaks were also used when the respondents felt they were in control and had time over, for example, a calm morning with few meetings:

Tuesday, 7–9 am, ‘on top of things,’ calm: ‘Quiet morning without meeting. Use the mobile sometimes when waiting for someone to call back or so.’ (women aged 33, The pulp)

Being bored at work could be about doing routine work or being in a boring meeting, and here digital breaks were used either to answer a private email or just surfing the web. One respondent wrote that he was writing a report and needed micro breaks. Emotions reported in relation to this were ‘on top of things,’ calm, bored, and tired. Breaks for lunch, coffee, and even going to the toilet were often combined with a digital break. Such breaks could be spent checking private emails, Facebook, Instagram, news or LinkedIn, and the emotions reported in relation to this were ‘on top of things,’ calm, energetic, creative, engaged, and tired.

Tuesday, 9–12 am, ‘on top of things,’ creative, energetic, engaged: Taking the opportunity to check my emails (private) and scroll through Facebook at the loo. (male aged 50, The Pharma)

The results indicate having private breaks using digital technology at work is a non-gendered activity and seems to be more about work than aspects of private life.

**Handling private matters – dominated by positive affective intensity**

The second type of private digital activities at work can be understood as activities that are a result of other people’s expectations and for oneself, here referred to as handling private matters. These activities were often about interacting with friends in a personal phone conversation, planning what restaurant to meet in the evening or just sending a quick sms (the diary did not tell about what). Other activities could be getting a time for a hairdresser; selling a house and booking time for looking at a new apartment. Finally, these private activities were also about leisure activities, like planning the children’s sports training. These activities occurred at all times during the week, Monday to Friday, 7 a.m. to 5 p.m. They were mostly related to positive emotions, for example, one respondent reported feeling ‘on top of things’ when finding out that festival tickets had been released on the way to a study visit and asking their partner to buy theirs. Another respondent reported being ‘on top of things, creative and calm’ when having time for a chat during office hours:

Monday, 3–5 pm, ‘on top of things,’ creative and calm: ‘Chat with a colleague about a private matter.’ (woman aged 36, The Tech)
Private matters at work were also connected with feelings of stress. One respondent reported stress when trying to book accommodation for private sports events via the Internet during office hours at work. Another was selling his house after 20 years and was stressed about that:

Tuesday, 7–9 am, stressed: ‘Booked a meeting for selling the house after 20 years in the same house. A little bit nervous.’ (male aged 51, The Pharma)

The results indicate that handling private matters at work is a gendered activity, since more women report engaging in these activities. This could be a result of the fact that women still carry a large responsibility for household, children, and older relatives, and that there is not enough time in the private sphere to handle all private matters.

**Emotions – A matter of control?**

When non-work activities are carried out in the work sphere, they are mostly accompanied by positive emotions, both positive affective intensity and affective tranquility, but sometimes also by negative emotions. The boundary-crossing non-work activities that are carried out in the work sphere can be placed on a scale ranging from ‘I want to,’ that is, with ‘high control’ to ‘I have to,’ that is, with ‘low control,’ see Figure 3. Boundary-crossing activities that are carried out with digital technology when in high control are related to positive emotions and affective tranquility. For example:

Monday, 9–12, ‘on top of things,’ calm, tired: In control of the day. Have some time for social activities. Thinking about a concert I want to attend in the fall. Send congratulations and check Facebook. (male aged 50, the Pharma)

The negative affective intensity emotions are more reported when the boundary-crossing activities are carried out while the experience of control is low. For example:

Friday, 9–12 am, stressed, tired: hectic morning. Get the sports activities in two weeks [as a coach] in control. Must solve it before the weekend since vacation is coming up. (male aged 51, The Pharma)

**Figure 3** Control span of boundary-crossing non-work activities.
Emotions seem to be related to these ICT-mediated boundary-crossing activities in two ways. First, an ICT activity related to one sphere of life (work or non-work) may cause an emotion in the other sphere (work or non-work). Second, the demand of being available to the ‘other’ sphere (e.g., non-work) may trigger emotions in the present sphere (e.g., work). Noteworthy is that private matters generate more feelings of stress than family interactions. While managing family matters at work is socially accepted, managing private matters is not, and therefore the latter may come with more guilt and stress.

**Discussion and contribution**

Our overall aim is to contribute to the understanding of private emotions at work in the digitalized working life. In this section, we first discuss the emotional effects of non-work ICT-mediated boundary-crossing activities at work, second how AET could be developed and third how this research can aid practicing managers and HR.

**Emotional effects of non-work ICT-mediated boundary-crossing activities at work**

Previous research on how private life meet work has focused on conflicts and negative emotions like stress (e.g., Greenhaus & Beutell 1985; Hill et al. 2014; Kreiner et al. 2009; Sanz-Vergel et al. 2015; Schieman et al. 2003). What is new, maybe as an effect of the increased use of digital technology, is that not only negative emotions and work–life conflicts are related to performing non-work activities in the work sphere. Our results show that positive emotions, like feeling ‘on top of things,’ energetic, engaged, focused, inspired, calm, and creative are also experienced among those who are connected to their non-work life while at work. What determines whether an activity triggers positive or negative emotion? Ashforth and Humprey (1995) pointed out that the same event may lead to different emotions in different individuals, although our results indicate that there are certain patterns regarding activities and the experienced emotions. The results of this study show that control is a central mechanism for whether emotions are positive or negative, either in the form of boundary control (Anderson & Kelliher 2011) or as control in relation to demands (Karasek & Theorell 1990). Consequently, our findings suggest that harmful psychological health effects related to the blurring of work and family roles can be better understood when related to the concept of control. Or more particular the feeling of being in control when engaging in activities related to the private sphere while at work. In relation to our respondents, some experienced being in control, while others experienced a lack of control, that is, powerlessness and ambivalence. It was evident in the data that expectations from others (colleagues, clients, and family members) exerted a social pressure that had a direct impact of sense of control. The results show that both men and women are performing non-work digital activities at work. Even though our respondent group was small, it seems that engaging in private activities is gendered with more women reporting private activities and connected emotions than men. However, our results indicate that family interactions are non-gendered. The non-gendered family interactions can be explained by the widespread dual caregiver norms in the Nordic countries (Leira 2006; Öun 2012). Despite
the dual caregiver norms, women still have a large responsibility for the household and the workplace could then be the time and place where there is space for handling private matters. Other explanations could be that men may be more reluctant to report private activities than women. A third explanation could be age differences: the female respondents who reported private matters and digital breaks aged between 27 and 48, while the male respondents were aged 51–52, and younger people may engage in more private digital matters at work.

Furthermore, the emotions reported in the diary study were episodic, meaning that they were short lived and changed often, in the same way as Pindek et al. (2019) showed that stress can be episodic. The emotions oscillate between strong and weak, positive and negative in a flow that does not seem to have a specific, day-to-day pattern. Our results reflect the working lives of many people today and it is likely that emotional patterns have changed due to ICT use. People are more exposed to different inputs (work and non-work) throughout the day, and emotions change accordingly. As Pindek et al. (2019) stressed, focusing on episodic emotions gives knowledge about stressors and strain in everyday work. Our research shows that focusing on episodic emotions deepens the understanding of the relation between emotional triggers in the digital working life, that is, activities that trigger an emotion at work may originate in the non-work sphere.

### Emotions in the digital working life

The fact that emotions bound to the non-work sphere can be triggered at work through digital activities, sheds new light on Affective Event Theory (Weiss & Cropanzano 1996). AET explains how events in the workplace lead to emotions that in turn affect work attitude and affect-driven individual behaviors. Since non-work-related activities can trigger positive or negative emotions at work in a profound way, they could be incorporated in the theory to explain emotions at work more holistically. Depending on the features of the private life environment, different non-work life digital events occur at work that cause different affective reactions. Although our research did not investigate whether performance is affected by private/family-triggered emotions, it is likely that emotions emanating from the non-work sphere affect performance. And if they do, they may also account for low job satisfaction, poor performance, absenteeism, turnover, and even vandalism (Barsade & O’Neill 2016; Judge & Larsen 2001; Martocchio & Jimeno 2003), building personal resources at work (Fredrickson 2003; Xanthopoulou et al. 2009) or better organizational performance and quality (Barsade & O’Neill 2016; Fisher 2010). Interestingly, Weiss and Cropanzano (1996) argued that both negative and positive emotions may be incompatible with work tasks and use cognitive resources in a way that negatively affects job performance. Thus, engaging one’s positive feelings regarding a house purchase may take attention away from work, in the same way as a worrying message from a sick child may. The notion of ‘positive’ and ‘negative’ emotions may therefore not be a fruitful label since it depends on whether cognitive capacity is hampered or enhanced (Lindebaum & Jordan 2012, in Ashkanasy & Dorris 2017). Emotions may also facilitate work and therefore also enhance job performance, for example, receiving a loving SMS from a spouse at work might give energy and creativity to complete a difficult work task, and thus enhance performance. Or being in contact with a sick child may actually help concentrating on work, when knowing how the child is doing. Research has also
shown that digital micro breaks at work increase vigor and focus (Ivarsson & Larsson 2011). Considering that performance-enhancing emotions may originate from both the non-work sphere as well as work brings private and family matters at work into a new context. Engaging in private matters at work is more stigmatizing and often viewed upon as slacking or being lazy, called social loafing (Perry et al. 2016). In their study on social loafing and ICT-mediated remote work, Perry et al. (2016) found that employees with family responsibilities might do more social loafing than employees without. However, the authors also stressed that social loafing is not due to laziness but is a coping mechanism. Engaging in family or private matters at work could enhance performance and therefore should be more accepted by colleagues and supervisors.

**Practical implications**

Our findings have practical implications. There are several reasons why employers should consider emotions at work in general. The daily job resources, for example, day-level coaching affect emotions (Xanthopoulou et al. 2009), emotions are contagious (Hatfield et al. 1992), and emotions may affect both performance and work attitudes (Barsade & O’Neill 2016; Weiss & Cropanzano 1996). At a time when the boundaries between work and private life are increasingly blurred, supervisors, HR and employees need to understand emotions at work in a new way:

1. An emotion may be brought from the private sphere to work (a fight at breakfast creates irritation that is brought to work),
2. An emotion related to the private sphere can be triggered at work through digital interaction, and
3. An emotion (positive or negative) can be triggered at work by the need to manage private matters at work

If the emotions that emanate from private life are not taken into consideration, there is a risk that efforts, like creating a positive emotional culture (cf. Barsade & O’Neill 2016) at work, are ineffectual. Furthermore, our research shows that blurred boundaries between the non-work and work spheres does not only have to lead to stress through home–work conflicts, but also to positive emotions like feeling in control and energized, and this might change the view of performing non-work activities at work. As an outcome of this study, one of the participating companies has adopted an emotional check-in procedure in some management meetings, describing each participant’s emotional state and its origin. This research suggests that supervisors and HR should consider the fact that emotions at work may originate from both private and work events and that emotions from both spheres may enhance or inhibit performance.

**Strengths, Limitations, and Future Directions**

Although our data were collected over a week and seven times per day, which lends credibility to our conclusions concerning the flow of emotions, a few limitations suggest the need for careful interpretation. First, not all general feelings in the diaries are explicitly
bound to an activity, thus not all emotions have been analyzed. Second, a limited number of emotions were suggested in the diary, and although there was room for entering other emotions few participants did. This may mean that the suggested emotions were adequate. Third, the gender patterns are based on a limited number of respondents. Fourth, the suggested development of AET has not been tested empirically and the effect on work performance has therefore not been confirmed. Future research should thus test the model with a special focus on whether there is a difference between the relationships performance and emotions emanating from work and performance and emotions emanating from private life and if and how work attitudes are affected by private life events at work.

Conclusions

By drawing on detailed diary data, we conclude that emotions change over the course of the day and many emotions experienced at work are triggered by non-work matters through digital technology. These emotions may be both negative and positive and may exist simultaneously as a response to the same matter. Since addressing private matters at work may create positive emotions and because positive emotions at work may enhance performance and self-esteem, engaging in private matters at work should be viewed differently by colleagues and managers.

The experience of control (high vs. low) affects the emotional outcome of non-work matters at work. When an employee experiences low control, it is more likely that the non-work matters managed through ICT are accompanied by strong negative emotions, like stress. Furthermore, handling family interactions at work are experienced as less stressful and frustrating than engaging in private matters.

Finally, Affective Event Theory (Weiss & Cropanzano 1996) states that both strong positive and negative emotions may affect work performance adversely. Based on our results, we suggest that theory needs to include the notion of non-work triggered emotions, since private digital activities trigger strong emotions.

References


Fredrickson, B. L. (2003). The Value of Positive Emotions: The emerging science of positive psychology is coming to understand why it’s good to feel good, American Scientist 91(4): 330–335.


## Appendix

### DAG 1: AKTIVITETSSchema XX-XX

<table>
<thead>
<tr>
<th>Typ av aktivitet</th>
<th>Tid i min</th>
<th>Tekniskt hjälpmedel</th>
<th>Plats där aktiviteten utförs</th>
<th>Aktivitets syfte/målgrupp</th>
<th>Med vem/vilka utföra aktiviteten</th>
<th>Din känsla</th>
<th>Tillhods</th>
<th>Ej tillhods</th>
<th>Annan (ange var)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kollekt ytt-representation</td>
<td>15</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMS-ut med kollega, stämt av mera</td>
<td>2</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skriver projektrapport</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kontrollerar google maps måste hitta till kund</td>
<td>3</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Telefon med stressad medarbetare</td>
<td>6</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behöver konstnärligst</td>
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<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kollekt Facebook och Instagram</td>
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<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Startar en kvalitativa aktivitet</td>
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<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Selv i telefonkort skalterar</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Tablet med gymjoggning och bokad tid</td>
<td>5</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personer svara på mail och teckna hem</td>
<td>20</td>
<td>x</td>
<td></td>
<td></td>
<td>Pendeltog</td>
<td></td>
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<tr>
<td>Behör laggitid</td>
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<td>x</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ringer sonen</td>
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<td>x</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kollekt DNK, Aktiebolaget och Facebook i ett snap</td>
<td>10</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Min generella känsla av detta tidsspann (Flera alternativ kan kryssas i):

- [ ] Har koll på läget
- [ ] Stressad
- [ ] Lugn
- [ ] Kreativ
- [ ] Kaos
- [ ] Engagerad
- [ ] Frustrerad
- [ ] Uttråkad
- [ ] Förvirrad
- [ ] Piggy
- [ ] Trött
- [ ] Annet, ange vad:

Eventuella kommentarer rörande tidsspannet

Idag blev det ovanligt mycket arbete på morgonen, men det beror på att jag och kollegor hade ett viktigt möte på morgonen och vi hade inte tid att stamma av i går eftermiddag. Att kölla Instagram och Facebook en stund då och då tycker jag är en bra mikropaus i jobbet. Lite sur över att jag redan nu kan konstatera att jag missar sonens träning i kväll 😊