
Availability and Boundary Management: An Exploratory Study

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ABSTRACT

As technology is becoming more powerful and widespread, it is used in multiple areas and for diverse purposes making us available to others anytime and anyplace. Boundary management focuses on the organisation of domains in life and their borders (e.g., between work vs. non-work). Working parents of young children are facing particular challenges of orchestrating their life domains. We present the results of an interview study of parents of young children on their boundary management and availability across domains. The paper contributes an identification of life domains; a classification of availability statuses; and details on the status we call ad-hoc availability with a melange of a priori rules and spontaneous behaviours. Ad-hoc availability is not only determined by a general personal preference for connection, but very importantly by a practical information need from the parent towards the person wanting to connect.

CCS CONCEPTS

• **Human-Centered Computing** → Collaborative and Social Computing

KEYWORDS

Availability Management; Interruption; Boundary Management; Work-Family Balance

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INTRODUCTION

The pervasive use of mobile computing devices such as smartphones, tablets, and laptops has drastically increased the connections between users. Being always available for anybody can lead to stress and has entailed diverse strategies for managing one's own attention and interruption [13]. The literature on boundary management gives great insight on how social roles are enacted in different life domains (e.g., work, home) and how individuals organise their availability for others within and across the borders of domains [2]. Especially for parents of young children finding a good balance can be a challenge [4, 12]. Work-family balance has therefore been of particular interest [5]. Recent studies in the human-computer interaction domain have provided great insight into boundary management with respect to users' adoption and adaptation of technology transit (i.e., change roles and move), to segregate (i.e., have clear borders and little spill-overs), and to integrate (i.e., allow notification and communication) their domains [3, 6, 9].

In this paper we present the results of an exploratory study of interviews with parents of young children. As our results show this cohort faces a particularly strong tension between segregation and the need to stay up-to-date and respond quickly concerning their children. The paper contributes—besides an identification of life domains of the participants—a classification of availability status across domains; details on the ad-hoc availability with a melange of hard a priori rules and soft ad-hoc behaviours. Ad-hoc availability is strongly influenced by the respective parent's situative personal needs for information about the child when they are not with the child.

BACKGROUND

Ashforth et al. developed a 'boundary theory' that postulates that 'individuals create and maintain boundaries as a means of simplifying and ordering the environment' and the theory describes how individuals create, maintain, and cross boundaries [2, p. 474]. Individuals have their personal preferences how permeable they want to organise their boundaries: while integrators have strong interaction across borders, segregators have limited interaction. The personal preferences for the permeability—and with that the attention to and availability for contacts from background domains—depend on various parameters such as the similarity or contrast between the roles in the different domains [2].

Work/family border theory particularly focuses on the work and family domain and the crossing between them. In particular, it 'addresses how domain integration and segmentation, border creation and management, border-crosser participation, and relationships between border-crossers and others at work and home influence work/family balance' [5, p. 747]. Clark and others have contributed immensely to our understanding of borders and their properties (e.g., their permeability and flexibility) as well as on factors that influence borders (e.g., border keepers who are contacts of a person that influence their boundary behaviour).

In our study we specifically sampled for parents of young children. We contribute specific results, which is highly relevant since the age of the children has an influence on the work-family boundary behaviour [4, 12].

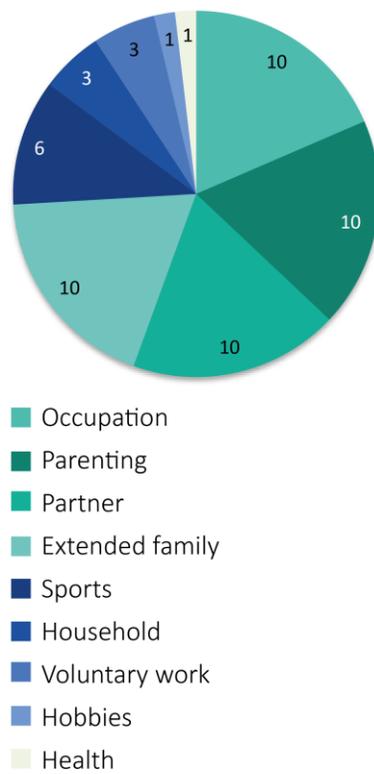


Figure 1. Relevant life domains (with number of interviewees mentioning and talking about them; starting with Occupation in the top-right continuing clockwise).

METHOD

Participants

Through word-of-mouth we recruited 10 working parents (5 women, 5 men), which were unrelated to each other, and in partnerships. Their age ranged from 35 to 47 years ($M=39.4$; $SD=3.2$). They all lived in a mid-sized town in central Germany. One participant had one child, nine participants had two. The children's age was between 1 and 8 years ($M=3.6$; $SD=2.1$). Parents worked as employees, entrepreneurs, or freelancers and all had a high school degree or higher; most had college degrees. They used at least one smartphone to communicate via voice, text message, and email on a regular basis. Contact types were family, friends, colleagues, employers, employees, and costumers. Additionally, some participants communicated with their children's contacts (e.g., their children's friends). All but one reported to also use instant messaging frequently with those contacts.

Procedure

We conducted explorative semi-structured individual 20-30 minute interviews in the participants' homes. It covered open questions on participants' life domains; their social availability; and their information needs within and across domains. The latter emerged from a pre-study that should that availability is also influenced by the personal need of information from the contacting person.

Qualitative Analysis

We developed an interview guide and iteratively tested and refined it in pre-test interviews. The interviews were audio recorded and transcribed, and their contents analysed [10]. The qualitative responses were clustered and categorised. Word and phrase count was used to gain insight in the participants' main concerns.

RESULTS

Life Domains

We clustered the relevant life domains (cf. Figure 1). The domains occupation, parenting, partner, extended family were described as very important by all interviewees. The other domains (i.e., sports, household, voluntary work, hobbies, and health) had some relevancy, but were all reported to be neglected due to the shortage of time.

Availability Statuses

interviewees pointed out that in all life domains they were strongly engaged in the respective foreground domain. Additionally, they made interesting statements about their availability for contacts outside of the current life domain. The statements were aggregated to three availability statuses: *unavailable*, *available*, and *ad-hoc*. Figure 2 summarises these three availability statuses.

AVAILABILITY STATUS	CHARACTERISTICS
UNAVAILABLE = Not being available to anyone. 	<ul style="list-style-type: none"> • During the night. • While doing sports. • During meals. • Due to smartphones very rare.
AD HOC = Available for specific people and information. 	<ul style="list-style-type: none"> • Exists within different life domains. • Depends on the situation, rather than the respective life domain per se. • Individuals' behaviour depends on the person that is trying to reach them and the incoming information. • Independent of individuals' boundary management preferences. • Individuals regularly find themselves in this status.
AVAILABLE = Available to any type of contact and information. 	<ul style="list-style-type: none"> • "During the day." • "At home." • "Most of the time."

Figure 2. Availability statuses and their characteristics.

The status of *unavailable* corresponds to not being available at all. Leaving the mobile phone at home, switching it off, and putting it on mute were the most mentioned practices.

Participants stated to be *unavailable* mainly while having family dinner, while doing sports, or while sleeping at night. For instance, participant P07 said: "Ufff, I try [to be unavailable] while I do sports. When I go jogging I don't have a communication device with me, I deliberately use an old-fashioned iPod for music [...]. I try to switch off completely at night. So no mobile phone at the bed." At the same time the participants said that the status *unavailable* was rare—especially as they are connected in various ways via their smartphones. Two interviewees reported they had their mobile phones switched on and next to their bed during the night and thus see themselves as never *unavailable*.

In the status of *available* participants' mobile phone's ringing volume was activated and the phone was carried along. This was done "most of the time" [P05], "during the day" [P09] or "at home" [P10]. The interviewees reported that in this mode they were generally *available* for any type of contact or information. Besides phone calls this also included text messages via SMS or WhatsApp, as well as emails. P05 told us: "I always have my mobile phone with me and I do check my emails and WhatsApp notifications on my mobile phone." The status available was asymmetrical—participants were more available for family matters at work than vice versa. One participant pointed out: "when I am [privately] available at work, there is less of a backlog in the evening and on the weekend".

Additionally, participants are frequently in what we refer to as the status of *ad-hoc* availability. In this status participants describe themselves as having a basic idea of their general availability or unavailability, yet feel they need to decide in the particular situation on their respective availability depending on the person who tries to contact them or the information they might want to exchange. Since this status is rather nuanced, we explain it in more detail below.

The Status Ad-Hoc

The status of ad-hoc is manifested within the different life domains and depends on the situation than on the respective life domain per se. Here they act and react according to the circumstances. P04 has his mobile phone with him even in business meetings and is available for his significant other for urgent matters. He explains this juggling of availability: "When someone is calling you on your private cell phone and then you think, yes okay, I am at work right now and can't pick it up. [...] Well, for example when my partner calls I neglect the phone call when I am in a business meeting and send her an email or text message 'Hey, I'm in a meeting. Is it important?' And when she answers that it is important, I leave the meeting and call her back." [P04]. When someone else is trying to reach him, he is not available. All our interviewees reported several situations within their family and work domain where they adapt according to the situation and person who tries to contact them.

How individuals adjust their behaviour depends on the respective person that is trying to reach. One participant reported that when at home he decides in the situation how to react to calls or emails that reach him from his business and whether to pick up and react or not: "It would rather

be like, okay when he or she calls then it should be something important, or [in other cases] when he calls then I don't give a damn. I can still listen to him tomorrow, it can't be that important." [P04]. Another participant describes his work-related availability during free time as follows: "[I am not available for] priority two or three customers and for 'I-did-want-to-talk-to-you-yesterday' people. But for VIP customers; they are the ones who bring the money in and who one lives on." [P08] So, participants prioritise their contacts and adapt their availability to the specific contact.

How individuals decide on their availability while in this status also depends on the incoming information. Our interviewees strongly reflected on the relevancy of the potential information of a person trying to contact them—and based their availability on it. The following statement of a participant on how he handles messages regarding business partners approaching him during the time with his children illustrates this fact: "I have my mobile phone with me [...], in case something goes wrong. And then [when it rings] I have to evaluate, if it is necessary and where to put my priority. Do I have to take a phone call, or can I stay with the kids?" [P03].

Another interesting aspect of this ad-hoc behaviour is that participants were not always clear about their own availability strategy. For instance, one participant first was under the assumption that he is completely unavailable for non-work related topics at work since he does not use the private mobile phone at work, but later clarified his flexible availability for urgent private issues via the business phone. He said: "First of all I try to do 100% work while at work. For real emergencies my family, my mum, and the nanny have my phone number at work. But with the agreement only when things get crazy and the child is at the hospital or something." [P07].

So, parents assumed that they strongly separated their domains, when in reality they did not. But parents also assumed that they have rather permeable boundaries, in fact, had some situated separations. For example, P05 who stated to be available for friends and family via email, text messages, and phone calls all the time while at work, later put his permeability into perspective and told us that during some times at work he is unavailable (e.g., during business meetings). So, ad-hoc availability is spontaneous in nature, but for parents is often triggered by the responsibility for the child and a need to exchange information and coordinate with the person doing childcare.

DISCUSSION AND CONCLUSION

In the literature on boundary management often a rather constant personal preference of segregation vs. integration is assumed [e.g., 7]. However, some authors have pointed out that such regulations of boundaries—and of seclusion as well as privacy—follow a "dialectic and dynamic boundary regulation process" [11, p. 129] (referring to the classical works of Altman [1]). Also, others point out that boundary work tactics include "using other people, leveraging technology, invoking triage, and allowing differential permeability" [8, p.715]. Previous work provides great insight into either the basic attitudes and behaviour of users (e.g., integrators vs. separators) [7], the role of technology in general [9], or the use of or influence of specific technologies (e.g., smartphones, smartwatches) [3].

We have specifically focused on parents of young children balancing between their primary domains of occupation, parenting, partner, and extended family. Our findings show that while

the parents had strategies for availability and unavailability many decisions are taken spontaneously. This is often due to children needs—both in situations where they are with the child and the child needs attention, or where they are at work a child-related information contact happens. Furthermore, the discrepancy between the first replies and later more reflected replies revealed an interesting lack of self-awareness.

Future information and communication technology should support users by: (1) allowing them to pre-specify strategic availability and unavailability; (2) allowing them to spontaneously adapt their connectedness; and (3) providing them with feedback on their actual availability.

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