Availability for Work, Family, and Leisure: An Empirical Study

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Abstract. Mobile communication technologies increase users' connectivity, leading to higher accessibility of persons. Previous research has provided valuable tools for managing one's availability to other persons. However, how users would like to manage their availability within and across life domains—especially if they have domains beyond work and life—is still unclear. This paper presents the results of a multi-day experience sampling study. It contributes key findings on the general availability preferences within and across multiple life domains.

Keywords: Availability, Interruption, Boundary Management, Experience Sampling Study.

1 Introduction

The progress in mobile information and communication technology allows users to reach for information and other users at any time and any place [21]. This increased connectivity is a mixed blessing—users applaud and complain about new opportunities smartphones provide [25]. With connectivity and the opportunity for mutual information and contact comes the challenge that users might interrupt each other in ongoing tasks at inopportune moments, which can lead to distraction with negative consequences on the individuals' performances [11].

In the last few decades, connectivity and related to it the interruptions caused and the resulting need to manage one's availability for each other has triggered significant research in human-computer interaction [e.g., 12, 13, 18, 23].

Empirical research has looked at users' preferences for availability for each other. A significant body of work has studied the users' organisation of life domains and strategies to integrate or segment life domains [1, 4, 16, 19]. Some research here has been specifically looking into the role of mobile technology and its impact on the success of the implementation of one's boundary management [7]. However, to the best of our knowledge, this research mainly focuses on a binary distinction between work and non-work (where non-work sometimes is plainly non-work [16], sometimes home [19], sometimes life [8], sometimes family [4], etc.). While the notion of work seems clearly delineated, the non-work side is not.

This paper's research question is two-fold: Is there a difference between the non-work family domain versus the non-work leisure domain? And is there a difference between general within-domain and cross-domain availability across multiple domains?

The contributions are threefold: The paper introduces a distinction between work, family, and leisure, beyond the usual dichotomy of work and life. The paper presents the results of an experience study of boundary management across those three life domains. The paper analyses the impact of the study on the participants' attitudes towards their preferred and actual availability preferences before and after the study.

2   Background and Related Work

The research on boundary management has been looking at life domains and how individuals manage the integration, segmentation, and transition between them [1]. Life domains often emerge within mental and physical boundaries and include persons, things, and parts of the self (e.g., work or family) [19]. We distinguish within-domain interruptions from contacts in the same life domain from cross-domain interruptions from contacts in other life domains [1]. From the literature, it is well established that individuals differ in their preference for either allowing more cross-domain interruptions (i.e., integrating life domains) or allowing little cross-domain interruptions (e.g., segmenting life domains) [3, 17, 24].

The experience sampling method asks users in-situ about their current situation and subjective aspects [5]. Due to its high ecological validity, it is also known as ecological momentary assessment [2, 14]. Asking users in-situ gathers their answers while they experience emotions allows us to minimise the recall bias that can lead to distorted reports on emotions in hindsight [14]. The ESM has proved to be a method with excellent validity and short-term and long-term reliability—especially when dealing with empirical data on frequencies and patterns of social interaction [5].

3   Method

We conducted a five-day experience sampling study on availability preferences within and across life domains. Nineteen persons (8 female, 11 male, 0 diverse) with an age ranged from 19 to 64 years ($M = 45.32$, $SD = 14.71$) were invited to the study and a lottery for a voucher of 30 euros for an online bookstore. The measures of our multi-level study combined pre- and poststudy questionnaires and momentary questionnaires [27]. The pre- and poststudy questionnaires addressed the preferred and actual segmentation of life domains [17, 20, 22]. The momentary questionnaires targeted the situative within- and cross-domain availability. They included questions about the current life domain (work, family, or leisure) and the respective availability for the life domains (work, family, or leisure). So, this implicitly included the cross-domain as well as the within-domain availability. The questions were asked and answered utilising SensQKit—a toolkit for context-aware sensing and questioning for iOS devices, which was developed with Swift in XCode on macOS.

The briefings took place before the ESM study in the participants' workplaces. The participants received information on the study, signed the informed consent form, and filled in a questionnaire with demographic data. They could then start the SensQKit app and receive a notification that the prestudy questionnaire is ready to be filled in.

Afterwards, the ESM study with the momentary questionnaires ran for five days and included at least one day on the weekend. During each day, participants received ten momentary questionnaires randomly within 90 minutes. At the end of the last day, they received the poststudy questionnaires.

As far as the data analysis [5, 9, 10] is concerned, we checked for the normality of the data and performed the respective calculations (mostly ANOVAs and *t*-tests). Bonferroni-corrected pairwise comparisons complemented the ANOVAs where appropriate. Planned contrasts were applied for stepwise comparisons of within-domain versus cross-domain [9]. Kendall's tau was used as a rank correlation coefficient for non-parametric data. z-scores were used internally to double-check and calibrate individual differences between participants [5].

4   Results

We report on the pre- and poststudy as well as the momentary results.

Pre- and Poststudy Results. All participants completed the prestudy questionnaire and answered all questions. Fifteen participants completed their poststudy questionnaire and answered all questions.

When comparing the answers *before and after the ESM study*, we find that the prestudy and poststudy work-life segmentation preferences were similar, and so were the prestudy and poststudy life-work segmentation preferences. However, the actual work-life segmentation decreased during the study. Before the study, ca. 21% (i.e., 4 out of 19 participants) strongly wanted segmentation, while after the study, ca. 53% (i.e., 8 out of 15).

The prestudy mean *preference for the segmentation of work from life* was higher ($M = 4.16$, $SD = 1.50$) than that of life from work ($M = 3.80$, $SD = 1.21$). Also, the poststudy mean preference for the segmentation of work from life was higher ($M = 4.27$, $SD = 1.28$) than that of life from work ($M = 3.73$, $SD = 1.54$). However, paired samples *t*-tests between the two prestudy preferences, between the two poststudy preferences, and between each prestudy and poststudy preferences respectively, were not significant.

The prestudy mean *actual segmentation of work from life* was lower ($M = 3.42$, $SD = 2.04$) than that of life from work ($M = 4.53$, $SD = 1.54$). The poststudy mean for the actual segmentation of work from life was considerably lower ($M = 2.40$, $SD = 1.81$) than that of life from work ($M = 5.00$, $SD = 1.56$). The paired samples' *t*-tests between the poststudy actual segmentation of life from work and work from life were significant ($t = -3.89$, $p < 0.05$). The other paired samples' *t*-tests were not significant.

Momentary Results. We received 689 filled-in momentary questionnaires (i.e., 72.53% of the 950 distributed questionnaires). Thirteen participants sampled for five days, and six participants for four days, which was acceptable. The sample size, the number of days, and the number of samples per day compare well to other ESM studies [26].

Looking at the current domain of the participants, we see that the overall mean availability was highest when in the domain work ($M = 0.76$, $SD = 0.35$) and lowest

when in the domain leisure ($M = 0.56$, $SD = 0.38$), and between them when in the domain family ($M = 0.62$, $SD = 0.42$).

Table 1 shows the overall mean availability in the totals row and the details for the mean availability of each current domain for each contacter's domain. The high within-domain availability is clearly visible—especially the availability for the domain work while in the domain work was almost 100% ($M = 0.96$, $SD = 0.06$) and a range from 0.77 to 1.0; and also the availability for the domain family in the domain family was very high ($M = 0.97$, $SD = 0.04$) and a range from 0.86 to 1.0.

Table 1. Availability from current domains to contacters' domains

Contacter's domain: i.e. availability for...	Current Domain							
	Work		Family		Leisure		Total	
	M	SD	M	SD	M	SD	M	SD
... Work	.96	.06	.12	.23	.10	.21	.45	.45
...Family	.85	.26	.97	.04	.78	.19	.87	.21
...Leisure	.46	.40	.78	.26	.79	.20	.65	.35
Total	.76	.35	.62	.42	.56	.38	.66	.39

5 Discussion and Conclusions

The findings from the pre- and poststudy questionnaires on preferred and actual integration and segmentation between life domains hint at some interesting points. The results corroborate the findings from previous studies that the preference for the work-life segmentation was higher than for the life-work segmentation. That is, people were less interruptible for work while at home, but were more interruptible for family while at work [6, 16].

The general availability per current domain was highest in the domain work. Extremely high within-domain availability for work of 96%, but also high cross-domain availability for the family of 85% contribute to that. Also, the availability for family was typically high while at work. Other studies have shown that the expectations of superiors and peers often entail a high availability for work [15].

An interesting distinction between family and leisure is the following: within-domain availability in work and family was almost 100%, while in leisure it was 79%. This could be because participants have some hobbies they do not want to and cannot be disturbed (not even by family), such as while doing intense sports (e.g., mountain biking, swimming). To the best of our knowledge, gender differences have not yet been addressed in ESM studies.

Acknowledgements

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