How to Juggle Work & Family:
A Mixed Method Study on Home-based Mom Teleworkers

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Abstract

This study investigates how boundary management between childcare and work affects the practice of telework. Such approach is meaningful since the employees' initial motivation to work away from the office is likely to influence the actual practice of telework, which in the case of Korean women were childcare. We observed home-based women teleworkers who are concurrently taking care of their child, principally focusing on how child caring context affects individual and collaborative working behavior, as well as information device usage. Multi-angled observations, including surveys, in-depth interviews, and data log analysis were conducted, to investigate the practical difficulties women encounter while working at home. Our findings show that at an individual level, child-centric time management influenced the type of tasks possible. At a collaborative perspective, this also intensified asynchronicity. Lastly, mothers were frequently in a physically dynamic state, thereby showing notable use of mobile devices and hands-free input.

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1   Introduction

Working moms experience work-family conflicts, even to the point some consider taking a break from their career. Despite the fact that men are becoming more involved with their family and experiencing a shift in their priorities away from work (Pleck 1978,1985; Michelson 1983), among dual-earner couples, women are more likely to take a career break to focus on childcare especially when their child is young. The term "mommy-track" well illustrates the situations when women are driven to choose one or the other. This expression implies that conflict between family and work are practically a matter of "choosing a track" rather than "adjusting pace". According to the National Statistics Office of Korea (2014), 1 out of 5 married women leave work, and 88% of them responded that the reason are marriage and child-caring. Moreover 72.8% of the women said they hesitate in finding a job, because of the burden of raising their children. Such work-family issues are also related to gender role beliefs (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005). Traditional low egalitarian gender role beliefs have been associated with greater difficulty for women to achieve work–life balance due to inherent incompatibilities in carrying out their work and domestic responsibilities (e.g. greater work–family conflict). In low egalitarian cultures, women were rated lower in work–life balance than men and appraisals of women's but not men's work–life balance varied depending on egalitarian context (Lyness & Judiesch, 2014). In addition, some researches suggest that women in Asia particularly struggle to combine family and work commitments (Lyness & Judiesch, 2008).

Telework has been considered as one of the potential solutions, in regards of finding work-family balance. Technical support such as rapid advances in information and communication technology(ICT), and the availability of low cost high speed Internet in particular, has also contributed to a rise in the popularity of telework practices (Kenny and Kenny 2011; Bayrak 2012). Previous studies mainly focus on the organizational perspective of telecommuting, such as productivity, turnover intention, and organizational commitment. Researches focus on whether potential flexibility, in regard to when and where they engage with their work (Hill et al. 2001; Kelliher and Anderson 2009; Masuda et al. 2012), actually reduces work-family conflict in general. Here, we attempt to look beyond the outcomes of telework, in hopes of contributing to the relatively unanswered; who teleworks, why, and what factors affect the actual practice? This research is in line with the investigation of the personal aspects of telecommuting, especially in terms of concurrent childcare. We believe that the actual practice of telecommuting should be investigated in consider with one of the most dominant motivations of many women in Korea leaving work, which is childcare. To do so we investigated KOWORC (Korea Original Women's Research Cooperative), a cooperative consisted of women who are taking care of their children at home, while teleworking at home. The questions guiding this investigation ask:

- RQ1. How does a teleworker manage boundaries between work and childcare?
- RQ2. How do their boundary management strategies influence working behavior?
    - How does child-caring influence individual tasks?
    - How does child-caring influence collaborative work?
- RQ3. How do their boundary management strategies influence device usage?

The rest of the paper is organized in six sections. In Section 2, we provide an overview of the main concepts revolving telework. On base of such concepts, we elaborate our research methodology in Section 3. The interesting findings resulting from thorough and multi-angled analysis are exposed in Section 4. We discuss our contribution and expandable issues for future work, in Section 5, and lastly summarize our research to conclude in Section 6.

2   Background

2.1   Telework and Work-Life Balance.

The relation of telework and work-life balance, are especially covered in the field of organizational studies (organizational behavior, human resource management). These studies mostly focus on work productivity and the worker's job satisfaction level. Telework in general, has inspired research in diverse disciplines ranging from transportation and urban planning to ethics, law, sociology, and organizational studies (Bailey, 2002). Researchers underline the potential of telework, in terms of the flexibility - flextime and flexplace - of working arrangements. The key lies in the self-determination of when and where one can engage with their work (Hill et al. 2001; Kelliher and Anderson 2009; Masuda et al. 2012). However, opinions contradict on the outcomes of such flexibility. Some studies argue that telework provides workers the opportunity to facilitate better balance between work and family commitments (Campbell, 2013; Donnelly 2006; Gajendran and Harrison 2007; Kanellopoulos 2011; Ranghuram and Wiesenfeld 2004). Recent meta-analysis by Gajendran and Harrison (2007), also found a bi-directional effect between work-life balance and telework, suggesting that telework reduces work-family conflict. On the other hand, others assert that telework rather contributes to conflict between work and private life roles (e.g. Davis 2002; Igbaria and Guimaraes 1999; Standen et al. 1999; Mann and Holdsworth 2003; Olson-Buchanan and Boswell 2004).

It is important, however, to review beforehand how these previous literatures define telework/telecommute; what act are they referring to in the first place. Since our research, intends to analyze on "how women work at home" while child-bearing, the definition of telework in terms of practice, should be clarified. Telecommuting is defined as work conducted from home that is often supported by telecommunications technology (telephone, Internet access, or computer) (Nilles, 1998). In terms of where the worker is, mobile worker or nomadic worker, focuses more on the mobility of the worker him/herself, which broadens the scope of teleworking to "not-office" rather than "at home". Meanwhile, distributed work is defined more broadly as work involving collaboration with others via ICT. This includes, for instance computer supported collaborative work (Carroll at al. 2009), virtual teams (Schweitzer and Duxbury 2010), virtual work (Watson-Manheim et al. 2012), and collaboration across offices, countries or time zones (Pyöriä 2011; Sarker et al. 2010).

2.2   Boundary Management

The concept of boundary management is frequently imported in studies discussing work-life balance. Kossek et al.(2005) defined boundary management as a "degree to which one strives to separate boundaries between work and home roles", and they suggest that the strategies of boundary management are part of one's preferred approach to work-life role synthesis. Other studies about work-life balance similarly define boundary management, and most of them explicitly agree that work-life roles and boundary management are closely related. Furthermore, Ammons (2012) points out that the boundaries of individuals may be both constructed consciously or unconsciously, since according to the studies of Mills(1959) and Moen & Chermack(2005), boundaries are not only shaped by individual needs but also by cultural and institutional arrangements and practices.

Many scholars refer to Nippert-Eng's segmentation in integration continuum in their studies about boundary management. According to Nippert-Eng(1996), the boundaries between work and home individuals set, usually locates on a continuum that ranges from segmentation (where work and family-roles are kept firmly segregated) to integration (where work and family-roles are entirely blended). She also explained in another study that theoretically, work-life boundaries of individuals can be located in both extreme sides of the continuum, but in real life most men and women fall somewhere in-between,

due to structural constraints and expectations associated with each domain (Nippert-Eng, 1996; Ammons, S. K., 2013). Individuals use various strategies when they try to transit between roles and manage their work-life boundaries, and there have been many studies that focus on the specific strategies, individuals have built. One study observed the distribution of individuals' boundary management strategies based on Nippert-Eng's segmentation to integration continuum, and categorized the strategies according to where the strategies may be located on the continuum (Ammons, S. K., 2013). Another research focused particularly on the boundary management strategies of teleworkers and explained that they utilize a variety of cues and rites of passage including space, time, technology and communication to facilitate their role transitions (Fonner, 2012).

3   Research Methods

The investigation was distributed upon two months, starting from early in May, 2015. The participants are with members of the Korea Original Women's Research Cooperative (KOWORC). The age distribution of the members was as follows: 9 members in their 30s and 10 in their 40s. Of 19 participants in total, 14 had a single child, and 5 had 2 children (avg. age of the youngest child = 4.6 years old). Online surveys and in-depth interviews were conducted, and the data logs were analyzed. A detailed description of each step follows below.

Figure 1- KOWORC's monthly meeting

3.1   Survey

An online survey consisted of 42 questions was held for 3 days from the 2nd to the 5th of June, 2015, and 19 members out of total 22 members of the cooperative participated in the survey. We used Google Forms to conduct the online survey. Contents of the survey were classified as follows: age (1 item), job satisfaction (3 items), career break (5 items), cooperative (3 items), information source use and preferences (8 items), task performance and planning (11 items), and child care(11 items).

3.2   In-depth Interviews

We conducted in-depth interviews with 8 members of KOWORC, who 1) have children, 2) have experienced working at a project while concurrently parenting, and showed interest in participating in the interview. Due to the geographical distribution, we were able to interview 3 participants face-to-face, another 3 participants via telephone, and 2 participants via e-mail. The interviews were conducted based on semi-structured guidelines, and were recorded under the participants' agreement. The recorded interviews were transcribed, and all interview contents were analyzed using autonomous analysis methods.

3.3   Data Log Analysis

Since members of KOWORC are teleworkers, most of the communication records remain as digital data logs, which enables text-analysis. In regard of communication, they mainly utilized the online BBS (Bulletin Board System) of KOWORC's official website, group chatting rooms of Kakaotalk[1], e-mail and online file storage systems. Under agreement, the group chatting rooms, e-mail usage, and file storage of 3 finished projects, and all of the content on the BBS were analyzed. We analyzed these data logs using methods such as Content Analysis, and Social Network Analysis.

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[1] KakaoTalk is a free mobile Instant messaging application for smartphones with free text and free call features. It was launched on March 18, 2010.

4   Findings

Our findings show that child-caring influenced telework in three aspects: individual task, collaborative work, and device usage. The basic factor that influenced the overall findings, were *whether or not the child was in the same space*. Interviewees responded that frequent interruptions such as the child's constant demands, and attention-seeking behavior (Bretherton, 1992) caused hardship in work. Due to such reasons, mothers turned to precise time managing tactics, which were preferentially determined by the child's absent hours (child-centric scheduling), in other words when the child locates at a separate space.

4.1   Individual Task: Divide and Conquer

Most of the interviewees, claimed "the lack of an absolute amount of time", as their biggest difficulty. P04 said she feels like she is working "three-jobs" as a mother, researcher, and house-keeper. She adds that sometimes she even prefers when she worked at an office, since working at home requires intense self-driven managing skills, whereas at an office she is resigned to certain policies, and therefore the cans and cannots are set for her. To manage both work and family commitments, mothers have to make the most out of their limited amount of time, which requires precise time management skills. When asked on the survey, when they prefer to work, <Figure2> shows that the favored working hours are bipolar to the early morning, and late night. Through interviews we could identify that such time ranges were favored because it was either after the child heads off to day care center or school (early morning), or after they go to sleep (late night). Parenting took priority in scheduling and consequently the come-and-goes of their child acted as cues for role transition (Fonner, 2012). Participants with more than one child find it more difficult to secure a lengthy amount of time, since the come-and-goes of the two children may crisscross, resulting in fragmented pieces of time rather than a worthy chunk. Some said they would wake up early or sleep late to secure extra working-time. P04, replies when asked about her daily routine.

> "I wake up at 5 in the morning everyday. I sit right in front of the computer as soon as I wake up. I have about an hour and thirty minutes, before my child wakes up, and that's when I start preparing breakfast. [...] Then I have to pick him/her up at three thirty in the afternoon, and he/she sleeps about at nine. I also sleep right after they fall asleep, or if I have work left, I stay up until 12. It's always so busy." <P04>

The notable point was that if such child-centric scheduling applies to a relatively unconsciously constructed boundary management (Mills, 1959; Moen & Chermack, 2005), participants also consciously manage boundaries by determining the character of the time. In other words, mothers determine the *type of task possible*, according to the presence of the child within the same space. The possibility of performance was judged on two criteria: "level of concentration needed" and whether or not the task "included others", such as communication. For instance, when with their child, they would perform rather simple tasks that demand a relatively low level of engagement or burden, such as email checking and information searching, mostly via mobile phone. In the case of communicating, when talking with co-workers they did not hesitate to use the telephone since the other were "aware of their situation" and would "understand", even if children were fussy in the background.

On the other hand, activities or tasks that require high level of engagement or concentration, such as writing and academic reading, were preferred to be done when children where at a separate location, or at sleep. Survey results also show similar aspects <Figure 3>. In accordance with the fact that the two variables - preferred work time and writing time - are positively correlated (correlation coefficient= 0.84), this represents participants' preference to write, when children are lest likely to interrupt. Moreover, if the communication is with someone who may not be aware of their working arrangements (concurrently taking care of their children), participants distinguished it as a task that they need to conduct when children were not around. P05, who had to communicate with external clients said, she usually gets over with communication tasks in the morning when the children are at preschool.

> "There are times when I have to talk to external clients, and if they hear children babbling and screaming in the background... That's why I try to get all the phone calls finished in the morning, if I need to." <P05>

If waking up early or sleeping late was a strategy to accrete the absolute amount of time, dividing the type of work possible in each situation, and fulfilling them by category, is a strategy to use the given time efficiently. However, there were cases when they had to get around high engagement tasks, when the child is in the same place. In this case, participants would adjust their personal degree or rigor in

terms of childcare policy, such as allowing an activity that they would usually prohibit, or try to communicate with their child and ask for understanding.

"I can't work when I'm with my child. So if I'm really in a hurry, I turn Pororo the Little Penguin[2] on television, and rush to the computer right when my child starts concentrating."

"Compared to other six-year olds, my child well understands my situation. When he starts throwing a fit, I explain that 'mommy has to work', and most of the times he stops whining."
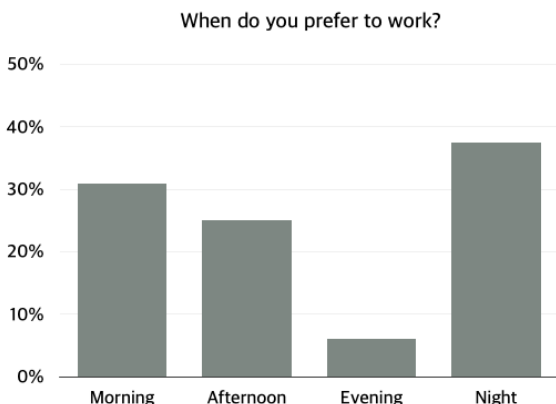
When do you prefer to work?

When do you write documents?

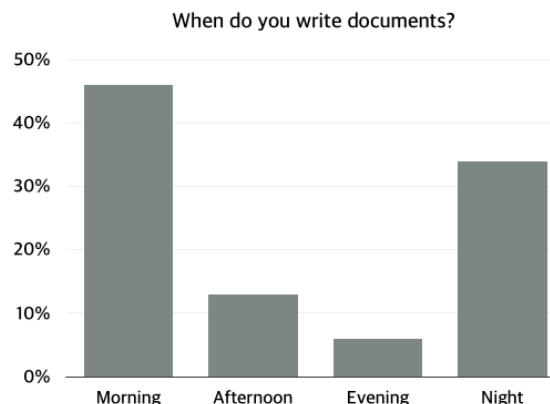Figure 2- Preferred Working Hours

Figure 3- Writing Hours

4.2   Collaborative Work: Asynchronous to the Extreme

The individual scope of child-centric scheduling, also affects collaborative work. According to Rodden (1991), collaborative work can be mapped on a time and space matrix (when and where). Cooperative systems are therefore either synchronous or asynchronous, remote or co-located. This matrix, is highly related to telework since computer systems for group interaction has traditionally considered the case of geographically distributed groups, who work asynchronously with each other (Rodden, 1991). Similarly, computer-mediated communications(CMC) can be classified as synchronous and asynchronous; the former referring to when the participants are aware of real time interaction with others online simultaneously, whereas the latter refers to when the participants do not expect immediate response to the proffered comment (Spencer, 2003). Drawing upon these concepts, we discovered that child-centric scheduling intensifies the asynchronicity among workers, especially in terms of communication. Physical care and supervisory care necessarily take place on a daily basis, and even throughout the day the child seeks attention sporadically, resulting in care points that are fairly brief (e.g., time taken to change a diaper), however unpostponable (Folbre, 2006). Therefore, since each member has to readjust their schedule depending on the child's spontaneous needs, it is hard to secure a time when all of the members are synchronously available. One-way communication such as notices or orders[3] may be relatively less problematic. However, in the case of brainstorming, decision making, or when the conversation involves complex concepts or social dynamics, the lack of real-time availability inhibits collaborative productivity. P05 said, she would leave mobile messages if she wanted her co-workers to "check" a file she uploaded or "notify" them about her progress, but would try to call them directly if she needed to exchange opinions and reach to an agreement.

According to the survey, 58% of the members of KOWORC, replied that they prefer Kakaotalk as an information sharing channel <Figure 5>, which represents the dominant use of instant messaging. Participants said that Kakotalk was the most accessible (95% of the smartphone owners in Korea use Kakaotalk[4]), and mobile-friendly. However, there lies a dilemma in using MIM (mobile instant messaging) systems. Though online chatting systems support synchronous communication, the key lies in *whether or not the initial speaker waits for the other to respond,* so that everybody starts from the same spot, leaving no burden for others to catch up. If this criterion is not met, the member who happened to be

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[2] Pororo the Little Penguin (Korean: 뽀로로) is a famous South Korean computer-generated animated cartoon series.
[3] Through Social Network Analysis, the group messaging room for announcements and notices, particularly showed such one-way communicating patterns. In this case their existed a dominant speaker, followed by confirmation responses.
[4] Daeho Kim, 2014, ICT Ecosystem, Seoul, CommunicationsBook, INC. 134p

asynchronous, later confronts with hundreds of messages. Participants complained that they cannot sort out the important information; what are the determined topics, and what are still in debate? Such overwhelming amount of messages and lack of salience, discourages them to go back to read and understand all the context.

> "Every piece of information floods into Kakaotalk like a tsunami. I can't sort out what's important and what's not. Kakaotalk is convenient in many ways, but let's say I couldn't check my phone because I had to look after my baby. If my team members debated over a certain agenda, right during that time, over a hundred messages suddenly appear 'unread'. I just can't sit there and go over every single message." <P03>

To overcome these difficulties, the conversation starter modified their communication dialogue, by stipulating explicit decision making processes. They would add headings such as "ASAP" or "check website". Whereas the team members that need to catch-up on the conversation, rather than asking via message, would use multiple channels, especially telephone calls to inform themselves with the final conclusions of the conversation.

4.3   Mobile Device Usage: At Home but Rarely Stationary

Most of the participants work at a fixed place (home), but even so, their stationary state is not always secured. Such phenomenon is explicitly observed when they are with their children. Despite of the fact that it is mentally difficult to fully concentrate on work when with their children, physical capabilities are also limited, since the mother's sight and hands are highly preoccupied with the child. According to our in-depth interviews, there are cases in which when their mother is looking at the desktop screen, children show reluctance, trying to retrieve her attention, for instance, pressing the power button off.

> "My child just can't stand it when I turn my back on him/her. Now he/she knows that the computer turns off if he/she presses the power button, so he/she comes running and just pushes the computer off." <P03>

> "Whenever my child sees me working on the computer, he/she turns it off. So it is impossible for me to work when my child is awake. He/she even hates me reading books, on my own. He/she has a tendency of wanting me to fully concentrate on him/her all the time." <P06>

Due to reasons explained above, a majority of these mothers use separation strategies from the boundary management theory, in that they divide their time of work to only when their children are out or asleep. However, a few attempted integration strategies. For example, one interviewee reported that she internally thinks about work, such as ideating on a topic, or organizing her to-dos, even while playing with her child. Related studies show that this is quite a common act in childcare. One study suggests the concept of "Primary Activity" and "Secondary Activity" to conclude that child care is almost always a secondary activity (Nancy Folbre, 2006). The examples elaborated are rather focused on the physical multitasking of household affairs, such as feeding the baby a bottle while watching television, or talking to a toddler while cooking dinner, while KOWORC members multi-purpose their mental and physical capabilities to integrate work and family activities. Therefore, in this case, a participant may appear by glimpse, to be operating a parenting process in the foreground, however simultaneously operating a working process, in the background. As for the few who use integration strategies, they utilized mobile devices more actively, such as spontaneously searching for information or dealing with sudden work duties. In this sense, the "mobility" of mobile devices, as an alternative medium of information seeking and externalization of memory, supplements the constraints of physical control during childcare. Moreover, some participants showed usage of hands-free input, replying that they would use voice messages while communicating via mobile messengers, when they lack time to type. Some report that they have even considered recording their instant thoughts or ideas using recording functions within the smartphone.

> "When I'm with my child, I usually check my mobile phone, mostly Kakaotalk. When in an urgent situation, I quickly search information using devices such as my iPad. It's hard for me to sit in front of the desktop, unless he's out, asleep or something." <P04>
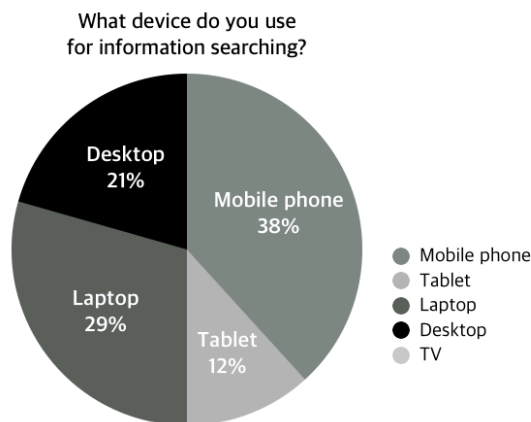
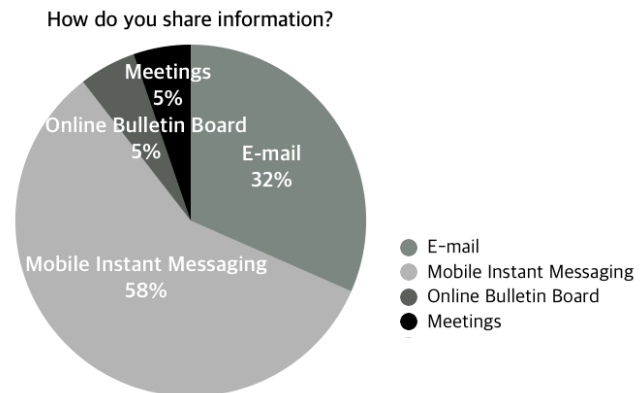Figure 4- Device Usage for Information Searching   Figure 5- Preferred Information sharing Channel

However, while mobile devices are moderately suitable for frequent but short bursts of interaction- such as searching or viewing information-, filling in the gaps between accessibility to a more capable system, they stay insufficient in certain tasks that happen to be more desktop/laptop-dependent. Previous research about the patterns of smartphone and PC usage working overtime, show that tasks were either completed on the phone or delayed until the PC was available (Karlson, 2009), which shows that certain tasks are preferred to be done on a certain device. For example, in Karlson's research, authoring programs such as Word or Excel were logged on PC activity, whereas phone usage was more focused on short texts such as emails. This implies that the participants still face limits in terms of tasks such as authoring, which are relatively inconvenient on the mobile phone, in terms of input efficiency. In this perspective, the bipolar writing time ranges<Figure3> elaborated in 4.1, can infer that not only the mental capacity but the physical capabilities of mothers – situating in front of a writing-friendly media, in this case a desktop or laptop - is secured.

Interestingly, we found out that mobile devices at the same time play an important role as role transition cues, especially in maintaining the work roles of our participants. That is, mobile devices were actively used to notify work events such as requests for confirmation, schedule notices or inquiries., According to the online survey, 8 out of total 13 participants replied that they only check the official website when they are notified through another communication medium, which indicates that notifications via mobile messaging systems, are an important stepping-stone, for mothers to transit into a working role, or obtain awareness of the team's progress and work flow. The following quotation is an example of such usage of mobile device, extracted from a Kakaotalk group chatting room of KOWORC's project group.

"I just uploaded a post about our group meeting. Please check the website!
Speedy responses plz! ^^" <P09>

These kinds of notifications can be significant factors to alluding transitions to work roles and scheduling work duties, especially for mothers who have to manage both work and family commitments. Since, their child-bearing circumstances do not allow stand-by activities such as frequently checking online bulletin boards or online storage services, they consciously utilize mobile devices to be informed, or to build and foster working contexts.

5   Discussion

This research proposes two discussable points: 1) how are the initial motivations related to the actual context of telework? and 2) can the practice of a teleworker be defined more precisely upon such working contexts? The motivations of telework and the outcomes of it have been investigated in many researchers, especially in organizational studies, while the *practice* in between the motivation and outcome have been viewed from a rather technology-supportive perspective. However, unlike we expected, during the investigation participants strongly pointed out the difficulties of telework in managing boundaries rather than technological constraints. Previous scholars such as Turetken (2001) also argue that good management practices rather than the technology itself may eventually determine the success of telecommuting. We suggest that the motivation of teleworking, should not be considered as just a trigger point, but understood as a continuous factor that influences the practice. Though, this paper particularly focuses on childcare, we expect to expand discussion about the relations of motivation and

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how it can influence the actual context of telework. Furthermore, this study stirs discussion yet again about the definition of telework, and suggests that teleworking should be understood as a combination of patterns. Therefore, a single teleworker may show multiple patterns depending on the context. For instance, though the members of KOWORC are mainly based at home, when with their child they show patterns that are closer to the term "mobile workers" which emphasizes the mobile state itself. Active discussion and future research deriving the behavior patterns of teleworkers, may hopefully contribute to a more precise definition of telework.

6   Conclusion

This research investigated a group of home-based mom teleworkers to understand how parenting influences the actual practice of telework. Whereas previous researches on telework and work-life balance have focused on the outcomes, such as productivity and job satisfaction (Bailey, 2002), this research takes on a relatively new perspective, in that we focused on revealing the difficulties and strategies of managing boundaries, within the actual teleworking context. We believe such approach is meaningful since the employees' initial motivations to work away from the office, are highly likely to influence the practice of telework, which in the case of Korean women were childcare. To answer our research questions, we conducted online surveys, in-depth interviews, and data log analysis to clarify the actual situation. The findings show that childcare affects telework in three aspects. At an individual level, mothers showed child-centric scheduling by dividing the possible tasks, depending on rather or not the child is in the same space. At a group level such child-centric time management intensifies asynchronicity, especially in regards of communication. Lastly, though working at their home, when with their child mothers were most likely in a dynamic state. Therefore, they showed active use of mobile devices and voice input. Like this, our research observed the practice of telework in context of childcare, and by that contributes to the realistic potentials and necessary points of support, for women working at home while taking care of their child.

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