Motherhood and Social Networking Sites: How do sociocultural contexts and technological factors affect Korean mothers' KakaoStory use?

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Abstract

In this paper, we investigate the role of sociocultural contexts and technological characteristics in user behaviors on social networking sites (SNSs). This study focuses on Korean mothers' social roles and their use of KakaoStory—one of the most popular SNSs in Korea. Through interviews with fifteen Korean mother users, this research studies changing social roles of Korean mothers with childbirth, and its influence on KakaoStory use. Also, we investigate how KakaoStory's unique characteristics affect mothers' usage. The results of this study reveal that the primary child caregiver role of Korean mothers influences them to use KakaoStory to seek informational supports for childrearing and to perform their mothering duties. The photo-driven user interface and private service characteristic of KakaoStory fitted to the mothers' need to share photos of children, with a restricted group of people. This study shed lights on the importance of the socio-technical perspective in the social media research.

1   Introduction

Life transition into parenthood is one of the most joyous, but challenging life experience for women and their family members. In addition to physical and emotional disturbances, mothers sometimes feel unprepared and lack confidence due to the overwhelming cognitive and emotional experiences of being a mother (Rogan et al., 1997). Nowadays pregnancy, birth, and mothering experience that was once largely supported by the family and women community is handed over to experts and treated as medical events, which has contributed to the increased burdens and isolation felt by mothers (Drentea & Moren-Cross, 2005; Lothian, 2008). Studies have emphasized the role of social supports in women's lives, suggesting that successful employment of social resources predicts a better adjustment to motherhood, maternal well-being, and reduced risk of depression (Darvill et al., 2010; Leahy-Warren et al., 2012).

The availability and increased public use of information and communication technologies (ICTs) have implications for social supports and motherhood. Several studies suggest that ICTs play a significant role for mothers in acquiring social supports, obtaining a variety of information from a heterogeneous group of people, and experiencing empowerment through increased knowledge (Drentea & Moren-Cross, 2005; Madge & O'Connor, 2006). Geographically or socially isolated mothers could benefit from this virtual connectivity and spontaneous social interactions of shared experiences (Madge & O'Connor, 2006). In addition to the exchange of shared experience and acquisition of social support, mothers utilized ICTs (e.g., search engine, blogging, social networking sites) for the smarter mothering such as keeping track of childcare schedules, and preserving their identities as an individual (Gibson & Hanson, 2013).

While there are numerous social networking sites (SNSs) that facilitate social interactions, mothers utilize only particular platforms. For example, Facebook was often used as a tool for sharing

postings and photos of children, and sometimes for identity preservation and connection to the bigger world (Gibson & Hanson, 2013; Morris, 2014). Conversely, Twitter was not used for sharing content about children, in part because text-driven interactions on Twitter as well as privacy concerns made mothers feel that this platform was unsuitable for their photo-sharing activities (Morris, 2014). In this paper, we examine Korean mothers' social contexts and interactions on KakaoStory, one of the most popular SNS among Korean users, and analyze the role of sociocultural contexts and technological characteristics in Korean mothers' KakaoStory use. This study sheds light on the importance of sociocultural contexts in social media research. Our study will contribute to knowledge on mothers' SNS use in non-Western societies, and provide a basis for future social media studies investigating the similar research topic.

2   Related work

In this section, we review existing literature on the role of sociocultural and technological factors in mothers' SNS use. User behaviors and perceptions are affected by the social norms and values of the society in which the individuals live, and technical characteristics of SNSs influence the way these users are connected and interacting on the media. Thus, observed human interactions on a given system should be interpreted through social values and technical affordances.

2.1   Social roles of Korean mothers and the role of SNSs

According to role theory, individuals' behaviors are "guided by a set of expectations that are either internalized or experienced from external sources, or both, and are judged and judge themselves according to how well they conform to the expectations" (Turner, 2006). In this sense, one's life transition to motherhood is a process of learning and practicing the set of values that are associated with maternity in the society. Social values and actual practices of motherhood are associated with the deep-rooted culture of the society, and thus, the sociocultural contexts of the society should be considered in order to understand human behaviors offline and online.

Korea has experienced significant changes in terms of economic development and family values, but traditional Confucian ideas about women's roles remain in Korea and have influenced women's perceptions and behaviors (Park, 2013; Sung, 2003). For example, values and norms of Korean society still emphasize domestic roles of married women over other social roles (e.g., paid worker) (Park & Liao, 2000). Korean women take a primary role of taking care of husband, children, parents-in-law, and other family members. Intergenerational transfer of financial and caring support continues after a young couple gets married and generates the sense of cultural pressure for family responsibility to the couple, and especially to women (Lee & Bauer, 2010; Park, 2013). Park (2007) claims that maternal responsibilities on childrearing and education are taken for granted in the context of excessive education fever of Korean society, and highly educated professional wives are considered as the ideal motherhood image. Mothers who have the most up-to-date information for children's education are popular, and children's developmental and educational outcomes are considered as mothers' accomplishments or failures (Park, 2007). Only a few studies have discussed how sociocultural contexts affect mothers' technology use. For example, Hong (2012) found that Korean mothers were often confined within the homes after childbirth and smartphone use reflected their social roles for educating children and other domestic responsibilities.

Life transitions require women to adopt new social roles when entering motherhood. Women usually experience a role discontinuity along with physical and emotional change, and new social role of mothers leads to increased needs for information and social supports for childrearing (Hong, 2012). Mothers can draw upon several sources to acquire different forms of social supports. Informal social networks such as family members or friends were reported as vital sources of emotional supports. Other new mothers are also reported as important sources of support who can provide mentorship through their

shared experiences (Darvill et al., 2010). Yet, these social supports sometimes are not sufficiently delivered due to barriers such as changed geographical networks or lack of opportunities (Gibson & Hanson, 2013; Rubin, 1984). Opportunities for social interactions also decrease significantly due to the existence of a dependent being (Drentea & Moren-Cross, 2005). In this sense, ICTs such as SNSs or mobile devices play an important role in mothers' lives for connecting to the wider society and seeking social supports to adopt their new roles. These alternate channels also allow mothers to obtain informational support and to communicate negative experiences by connecting a number of women who have similar experiences and knowledge about mothering (Hong, 2012). In a study by Gibson and Hanson (2013), new mothers sometimes used SNSs to seek advice from their networks or form supportive mother networks. Also, these mothers utilized SNSs to keep connected with people and the world outside of their motherhood world. Previous researchers provided an understanding on how parenthood could change women's lives and their interactions on SNSs.

2.2   Mothers' SNS use and technological factors of KakaoStory

Changes in feature sets of a system influence user practice, norms, and expectations within the system (Ellison & boyd, 2013). Even seemingly minute technical features can result in different practices of SNS users, and consequently, technological factors should be considered in understanding what interactions the system constrains and enables. Previous studies have suggested several characteristics defining mothers' use of online communities and SNSs. The most relevant is that the content of mothers' postings affect the types of SNSs they choose (Morris, 2014). In a study by Morris (2014), Facebook posting patterns of mothers of young children changed to a multi-media photo-sharing style. Morris (2014) explained that this changing posting style, coupled with the network composition and privacy concerns, might be the reason of why mothers utilized Facebook more than Twitter. Limited personal time and restrictions in using computers also affect mothers' reliance on mobile devices (Gibson & Hanson, 2013). In Gibson and Hanson's study, some mothers utilized mobile-based SNSs to fill information gap because other online community services were not designed for mobile devices and hard to use on their mobile devices.

(a)   (b)
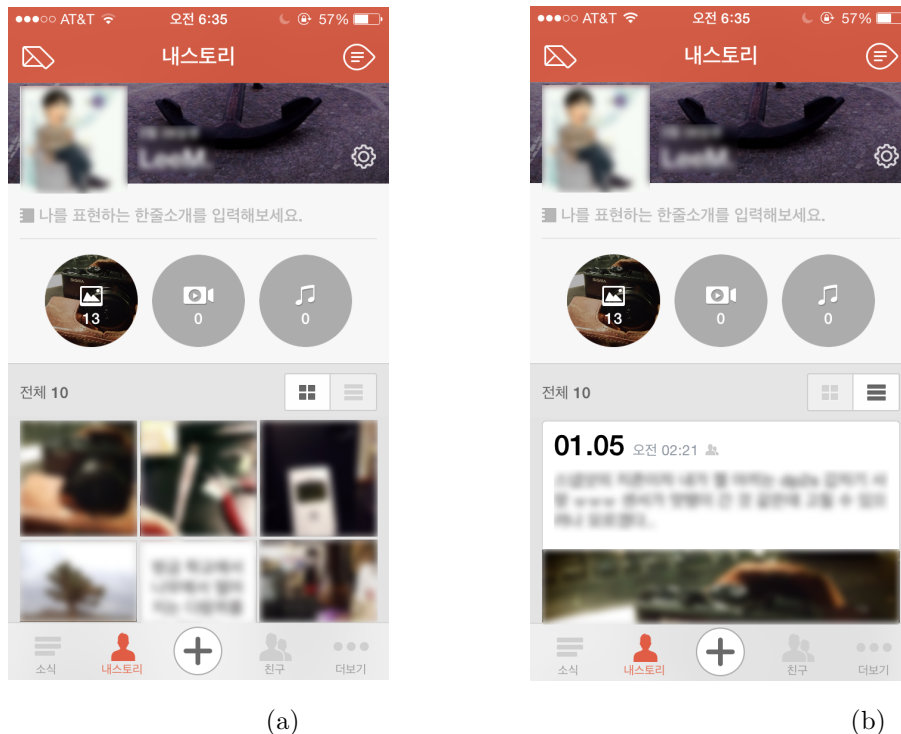
Figure 1. Photo-based interfaces of KakaoStory: (a) 3-column interface; (b) List-style display.

KakaoStory has unique technological features that distinguish it from other well-known SNSs such as Facebook in several ways. Since its introduction in March 2012, KakaoStory experienced rapid growth due to the popularity of its sister service called KakaoTalk—a mobile phone messaging service. The mobile phone address book is at the center of the friendship mechanism of KakaoStory. Connections on KakaoStory are usually made by adding one's mobile phone number, and KakaoStory friends are mostly built on close relationships (Jo & Han, 2013). KakaoStory is a photo-based mobile SNS, whose interface is developed for sharing photos via mobile devices. The user interface (UI) of KakaoStory is designed primarily to present photos and short texts. For example, the MyStory page exhibits a 4-column table where the first photo of each posting is shown unless the posting is text-only (See Figure 1 (a)). Alternatively, users can change the 3-column table into the list-style display that is similar to timeline of Facebook. These photo-driven interfaces are similar to those of other photo-oriented services such as Flickr and Instagram. In addition to the UI, integrated photo-effect feature could afford users to present collective visual experience in several ways (Hochman & Manovich, 2013). These characteristics of private social networking and photo-driven service allow interactions on KakaoStory to be centered on sharing everyday lives with strong ties (Jo & Han, 2013). Researchers have reported that transition into motherhood changes the posting pattern of mothers to be more photo-driven (Bartholomew, et al., 2012; Morris, 2014), and thus, a photo-based interface might attract potential users who are experiencing life changes into parenthood.

Previous researchers on mothers' SNS use studied how mothers' life transition and technological contexts shape mother's interactions in a given platform (Drentea & Moren-Cross, 2005; Gibson & Hanson, 2013; Morris, 2014). Different social values and norms associated with motherhood can lead to different purposes and interactions of mothers in using SNSs. This study investigates Korean mothers' interactions on KakaoStory to understand the role of both sociocultural and technological factors in user interactions.

3   Method

This study used the interview data of a larger study that consists of both surveys and in-depth interviews. During the fall of 2013, Korean mothers with children under 8 were recruited to participate in a web-based survey regarding their KakaoStory use. Among 86 participants who completed the survey, 58 participants agreed to participate in a follow-up interview. Among these potential interview participants, 15 responded to the e-mail request for an interview and completed a one hour-long interview session. Each interview was conducted via internet-based phone service such as Skype, KakaoTalk free call, Google Hangouts, and iPhone FaceTime, and was audio-recorded. Interviewees were given 25,000 Korean won (US $20) for their participation. During the interview, participants were asked to answer questions about their daily lives, offline social connections, KakaoStory and other social media use, and perceived social supports through KakaoStory. The first author conducted interviews, and transcribed the recorded interviews in Korean. We then used an online qualitative analysis tool called Dedoose for the analysis of the transcribed interview data. Authors created a codebook with five primary codes such as daily time use, reasons for using KakaoStory, sociocultural factors, technological factors, and interactions on KakaoStory. Each author conducted line-by-line coding, reviewed each other's coding, and discussed the coded data. Selected quotes were translated into English by the authors.

All participants were in their late 20s or 30s. Participants lived in urban neighborhoods where young couples can access to workplaces using public transportations and still afford cost of living. While twelve participants have used SNSs such as Facebook and Cyworld before joining in KakaoStory, most of these participants answered that KakaoStory was their main SNS. Participants used KakaoStory around 30 minutes every day on average, and two participants responded that they used KakaoStory more than 1 hour per day. On average, participants were connected with 49 friends on KakaoStory.

Participants (age)	Number of Children	City Location	Job	Time Use (minutes)/ Number of KakaoStory Friends	Other SNSs
P1 (33)	2	Uiwang	Pharmacist	10-30m /30	Facebook, Cyworld
P2 (33)	1	Bucheon	Housewife	30-60m/72	Facebook, Cyworld
P3 (34)	1	Yongin	Senior position	10-30m/20	Facebook, Foursquare
P4 (33)	2	Seoul	Assistant Professor	0-10m/18	Facebook
P5 (28)	1	Seoul	Nurse	60-120m/112	Facebook
P6 (33)	1	Ilsan	Housewife	10-30m/44	Cyworld
P7 (30)	2	Suwon	Housewife	0-10m/20	Facebook, Cyworld
P8 (37)	2	Seoul	Housewife	10-30m/21	Cyworld
P9 (37)	1	Seoul	Senior position	10-30m/20	Facebook
P10 (34)	1	Seoul	Junior position	30-60m/67	Facebook
P11 (37)	2	Bucheon	Housewife	30-60m/50	Facebook
P12 (31)	1	Iksan	Housewife	30-60m/32	Facebook
P13 (29)	1	Yongin	Part time Pharmacist	0-10m/87	None
P14 (36)	2	Bucheon	Teacher	10-30m/57	None
P15 (33)	2	Iksan	Housewife	120m-/78	None

Table 1: Interview participants demographic

4   Findings

Changing Social Roles and SNS Use

Participants mentioned that children, dining places, and travel destinations are the three major topics that they usually saw on KakaoStory. Especially, participants perceived that children-related postings dominated the KakaoStory postings. P9 said:

> "My baby makes me happy and also makes me tired. She became the center of my world. (On KakaoStory) I talk to other mothers about what happened between my baby and me; they know what it's like because they all have babies. So we laugh, like that."

P9 felt that her life has changed after the arrival of her daughter, which influenced her KakaoStory interactions. She used KakaoStory to be connected with other mothers who she met from a postnatal care center, and mostly share child-related postings with them. All participants in this interview identified themselves as a primary caregiver in their households, who had to make decisions for everyday childcare. Husbands are often described as an assistant, who have less responsibility in taking care of children, or another family member that they should take care of. This social role made participants seek information about childrearing and tips on how to spend leisure time with their children. KakaoStory sometimes functioned as a channel for sharing this type of information. P1 mentioned a "weekend night rush" phenomenon on KakaoStory, during which her mother friends made postings about what they did and where they went with children over the weekend. Participants often made postings about how they spent time with children and what happened to their children, and these postings provided useful information to other mothers. For example, P13 said:

> "I always think about how to spend time with my child. Friends on KakaoStory made a lot of posting about where they dined out with their children, what they did for weekends, what they

played together, and so on. I am seeing those photos and thinking 'okay, I may do this with my baby'. I can pick up ideas for childrearing [from KakaoStory postings of my friends]."

A significant number of P13's KakaoStory connections were local friends who she met in an online community for sharing information on baby products. Her interactions on KakaoStory were mostly with these friends who also share their baby's photos. While these friends did not necessarily make postings in order to share tips with other mothers, P13 was able to obtain childcare information such as popular activities and normative levels of social development for certain age groups by looking at their photos. Another interviewee (P4) could learn about different educational programs that other preschoolers did from her friends' KakaoStory postings. Because a large portion of mothers' KakaoStory postings are about the daily developmental history of their children and daily events with their children, connected mothers could check and compare how well their babies are doing and growing through the other mothers' previous postings. Some experienced mothers actively provided advice for other mothers who suffered from child-related incidents. P4 and P10 mentioned that they also commented on the postings of their mother friends who recently got pregnant or had younger children than them. They shared their knowledge about pregnancy and childrearing with other people in order to express their support through KakaoStory interactions.

Changing social roles shaped with whom mothers of young children are connected on KakaoStory. Several participants had to move to a different city after marriage or childbirth in search of affordable housing and a better school district. This relocation sometimes increased the geographical distance from parents or old friends. Participants in this study often mentioned the role of online communities in their life transitions. These mothers joined online communities for women to expand their connections with other women in their neighborhoods as well as to share information about marriage, motherhood, neighborhood, shopping for household supplies, or hobbies. The social networks that participants formed through online communities are an important part of participants' social networks, and affect their network composition on KakaoStory. Stay-at-home mothers of this study were more active in cultivating this online-based relationship on KakaoStory and online messaging services. Participants were mostly connected with old friends or new mother friends of a similar age group. This unique network composition induced postings on children or homemade dishes that reflect Korean women's roles in the household. Similar perceptions toward their changed roles and posting patterns created shared interests and life experiences as mothers among KakaoStory users.

Participants also utilized KakaoStory to perform their social roles within the family. P1, for example, sometimes made postings of particular incidents about her kids on KakaoStory for the benefit of her mother and her husband. P1, who was working part-time, took care of her children and captured special moments of their children while her mother and husband are at work. KakaoStory allowed her to keep her family posted without worrying about the schedule of her family members and potential disturbance of her message. P13 also posted on KakaoStory to share her child's developmental story to her parents and a cousin who lives far away from her. SNSs or message services functioned as a channel for compensating the increased physical distance and heightened family responsibility. Participants often were connected with their parents or at the very least, siblings who can show KakaoStory postings to their parents.

Eight participants were connected with their family-in-law on KakaoStory, as opposed to parents-in-law. Participants named several reasons for the absence of parents-in-law on their KakaoStory, including that their parents-in-law did not use smartphone. Oftentimes, participants were connected with sisters-in-law or brothers-in-law who were of similar age. Participants did not consider family-in-law as the main audience of their KakaoStory postings, but they were still cautious in posting photos or stories that might be perceived as ignorance of their family responsibilities. A family trip without parents-in-law or big expenses associated with luxurious goods were the examples of the censored postings. One

interviewee, P11, shared an episode where she utilized KakaoStory to provide evidence of a particular activity that she used as an excuse not to attend a family event.

> "I was supposed to visit my parents-in-law to celebrate my father-in-law's birthday tomorrow. Accidentally it conflicts with the schedule of my son's martial arts contest. The contest is important to me and my husband, right? So, we said we can't make it, but as a proof, I may need to take a photo of my son in the contest and upload it [on KakaoStory]. Otherwise, they might think I cooked this up [to avoid her duties to serve guests at the party]."

She was afraid that her skipping of a family event could be perceived as negligence of family duties by her family-in-law. P11's parents-in-law was not on KakaoStory, but she used the connection with her sister-in-law on KakaoStory. She planned posting a photo of her child's activity that is often considered as a sufficient excuse for skipping a family event. This example shows that this participant sometimes used KakaoStory to present the images of carrying out her family responsibilities.

Sometimes, participants also made postings about children, a husband, and family time to present images of ideal family. P13 posted a photo of a meal table when her husband prepared a meal for her. She said that some of her postings were made to boast of, and the meal table photo was one of the examples. P6 also mentioned that her postings were photos of her child, family travels, gifts that her husband bought for her. This was sometimes related to their motherhood-based social networks on KakaoStory. P9 mentioned that she did not want to share family troubles on KakaoStory, because some of her KakaoStory friends were mothers that she recently got acquainted with. P8 also worried about the situation that her oversharing on KakaoStory ruins her friendships with other mothers and also her child's friendships.

Giving birth not only changes mothers' social roles, but also changes interests and perceptions toward themselves. For example, P5 explained that her loss of self-esteem after giving a birth as a reason of changing posting pattern. Photos of herself have decreased significantly, and her postings become mostly child-centric. Mothers' child-centric posting patterns were even regarded as norms on KakaoStory. One interviewee (P3) said her friends pointed out P3's KakaoStory postings did not follow typical narrative styles of Korean mothers. While other mothers' postings were mostly about cute and fun photos of their children, P3 sometimes made fun of her daughter on her postings, posted ugly photos of her daughter, or posted photos of her own with her daughter. This hinted at a societal pressure that is weighed on mothers in Korea to transform their perspectives and lifestyles in accordance with social norms on KakaoStory. P1 and P11 also mentioned that postings on blogs and SNSs about intensive mothering practices such as recording children's every achievement and preparing homemade dishes for family members are considered as evidences of good mothering in Korean society. These trends encourage mother to record and share their involvement in domestic roles on KakaoStory.

Platform Characteristics and SNS Use

Participants mentioned mobile devices as their major communication tool for accessing the Internet and online communities, as well as connecting with other people. Mother of newborns, especially, reported their reliance on mobile phones to communicate with others. P3 said, "I don't even remember when was the last time I worked on my computer at home. I don't even attempt to turn on my computer when I take care of my baby alone." P13 quickly checked online communities, KakaoStory, or KakaoTalk on her mobile phone, while her husband took care of her baby after work. Interviewees considered that KakaoStory was an attractive platform for mothers because its interface was dedicated for use on mobile devices. Some interviewees mentioned that they favored the simple interface of KakaoStory that mostly consists of photos and short texts.

> "Facebook is too complex for me. People message me, request friendship, or I accidentally click something. But KakaoStory has a very intuitive UI [user interface]. All you need to do is to

choose a picture, write a short text, and upload. How simple! Some photos and short texts are all what I see from others' KakaoStory." (P1)

P1 pointed out that the interface of KakaoStory had defined the patterns of her postings as well as other people's. Photos were often mentioned as an important component of interviewees' postings. Several interviewees indicated that the photo-oriented interface of KakaoStory shaped interviewees' interactions on KakaoStory. Participants responded that most of the photos are taken when they saw cute faces of their children or they visited interesting places with their children. And thus, it was not surprising for them to share and see child-related postings on KakaoStory. P10 distinguished her utilization of several SNSs; KakaoStory is used for posting photos of her children and Facebook for communicating with a wide range of people through text-based status information and comments.

Remarks of interviewees reflected that friend-making mechanisms shaped strong-tie based friendships on KakaoStory. Friends on KakaoStory were those people who they had phone numbers or were already connected on KakaoTalk. People can check profiles and photos of their KakaoTalk friends, and thus, exchanges of phone number are interpreted as a gesture that grants access to their KakaoTalk and KakaoStory profile pages. P12 compared the friend-making mechanism between Facebook and KakaoStory:

"To my knowledge, Facebook recommends friends of your friends, right? But KakaoStory doesn't have anything like that. If I were a college student who wants to expand her social networks, Facebook would be a good channel for that. But I think, for us [mothers], friends recommendation only bothers."

KakaoStory had friend recommendation features in fact, but participants did not feel it was as noticeable or intrusive as it was on Facebook. Participants felt more control over their network composition on KakaoStory, about with whom they were connected and to whom their postings were shown. Platform characteristics also influenced the network composition on KakaoStory, such as the amount and types of friendship. Because KakaoStory is relatively a new and mobile-based platform, young people are the main users of KakaoStory. Interviewees mentioned that their KakaoStory friends are mostly in their age group, because older adults who are not their family members did not use smartphones or did not request KakaoStory friendship by themselves.

Most interviewees considered KakaoStory as their main SNS, but they also can utilize a variety of online platforms for social networking. Some interviewees used SNSs, such as Cyworld or Facebook, that are popular in Korea, online communities for local mothers, and other social media such as group messaging services. In particular, group messaging services such as KakaoTalk—the sister service of KakaoStory—were widely used to communicate with friends and exchange information. P6, P11, and P15 responded that they usually exchanged messages with their friends on group messaging services, and some interviewees said they shared their entire day from the breakfast menu to TV-watching with a group of friends on these services. Although the group of people with whom participants are extensively communicating on a group messaging service often overlaps with those on KakaoStory, mothers still shared photos and events on KakaoStory and other SNSs that they already shared through a group messaging service. This might show that a social interaction is not the sole reason of mothers' postings on KakaoStory.

In addition to social interactions, several interviewees noted that they made postings on KakaoStory for record-keeping or public announcement purposes. For example, P2 said that household accounts and KakaoStory are the two major ways to keep a log of her life. P1 used KakaoStory as a family board to share her children's daily activities to her husband and parents. P1 also used KakaoStory to record an interesting chat or moments with her children immediately using her phone, while she archived numerous photos of her children that were taken by digital camera on Cyworld using the computer. The mobile-centered interface allowed P1 to utilized KakaoStory to quickly record, archive,

and share moments. P6 announced big events like new pregnancy or moving on KakaoStory, otherwise she needed to talk to each person.

5   Discussion & Implications

As the types of social media diversify and new platforms are introduced, it is becoming important for researchers to study how users utilize and perceive diverse social media. This study contributes to an understanding of how connections and interactions on SNSs are affected by social contexts and technological factors. The results of our study showed that mothers' SNS use might be related to their adaptation of new social role as a primary caregiver of their children. The content of the postings and network composition allowed mothers to share information and tips for childrearing and housework on KakaoStory. As a result, these domestic work-related postings are perceived as salient, and mothers could freely present their mother identity through KakaoStory interactions. Morris (2014) mentioned that the characteristics of network composition and their changing posting style affected American mothers' choices of SNSs. Similarly, strong-tie based networks of KakaoStory allow users to be connected with close friends or family members and encourage Korean mothers to make posting of the photos of their children with less privacy concerns.

Mother-identity based social interactions on KakaoStory seem to create a sense of community among users. Friends on KakaoStory work as a support network to exchange emotional comments and feedback with other mothers who also make mothering-related postings. The presence of mother peers and exchange of motherhood-related topics together contribute in generating a sense of community among users, which might influence mothers to actively engage, perceive benefits through KakaoStory use, and lead to continuing use (Lin & Lu, 2011; Zhang, 2010). Also, the activities of publicizing and sharing shared experiences with peers might empower women by obtaining knowledge and voices (Gibson & Hanson, 2013; Lopez, 2009).

Motherhood experience entails changes in social roles and self-perception among Korean mothers, and this study shows another example that becoming a mother can change the ways women use social networking technologies, especially toward posting more photos on their SNSs (Morris, 2014). Interestingly, Korean mothers' posting patterns are also related to their social roles in Korean society. Korean mothers oftentimes are responsible for reporting daily lives of their children to other family members such as parents and –in-laws. This main caregiving role increased the need for virtual interaction of women. Some participants mentioned that they send photos of their children to their parents-in-law using email or group messaging services. Other participants kept a log of developmental stories of their babies and memorable moments with their family on KakaoStory. These child-related postings might work as a proof of their performing family duties and their following social norms of mother responsibilities.

However, there might be a pitfall of child-centric postings on KakaoStory. A few participants of our study felt that postings on KakaoStory or other mother blogs encouraged intensive mothering, and made mothers feel guilty about their lack of ability or their employment status (e.g., working mothers). Sometimes, postings about personal lives were censored and repressed if family-in-law exist in mothers' KakaoStory connection. Previous researchers also pointed out online channels might play a role in transferring and reproducing the ideology of the society (Madge & O'Connor, 2006; Drentea & Moren-Cross, 2005). The child-centric discourse that takes place in mothering sites or social media could affirm gender role, reinforce gender inequality and promote intensive mothering.

Mothers could acquire information from online forum or other channels, but KakaoStory postings that are made by their friends became valuable information that can be trusted. Offline relationship with SNS friends and the accumulated postings on SNSs might allow users to understand each other's information well and evaluate its usefulness easily. Also, they can directly ask questions or request further

information about the posting to their friends (Gibson & Hanson, 2013). Mothers' exchange of child caring information shows how SNSs could function as an information channel in the future, not only as a social interaction channel. Future researchers can examine how SNSs are used for information acquisition, and what design factors should be implemented to afford this user activity.

This study has several limitations. We focused on KakaoStory users, and it is not possible to compare how our participants use KakaoStory differently than the way other mothers use other SNS platforms (e.g., Facebook, Twitter). We also did not examine several variables that could affect mothers' SNS uses. For example, prior parenthood experiences or employment status might influence how mothers perceive their motherhood experience and social roles, and how they utilize SNSs. All of these issues will lead future scholars to address more intricate questions on how sociocultural and technological factors affect user behaviors.

6   Conclusion

This study shows that sociocultural context, particularly social role, plays a critical role in shaping Korean mothers' perceptions and interactions on SNSs. Korean women in their motherhood utilized KakaoStory to perform their social roles and acquire social role-oriented information. Our study suggests that technological characteristics of SNSs can affect the ways they use the SNSs, including network composition. Finally, this study contributes to socio-technical system researchers by showing close interactions between social roles and technical features of SNSs in the context of new mothers' behaviors. Our study was conducted with Korean mothers only, and we recommend to future researchers to conduct a study comparing the characteristics of social media use during motherhood in different cultural contexts.

7   References

Bartholomew, M. K., Schoppe-Sullivan, S. J., Glassman, M., Kamp Dush, C. M., & Sullivan, J. M. (2012). New parents' Facebook use at the transition to parenthood. *Family Relations*, *61*(3), 455–469. doi:10.1111/j.1741-3729.2012.00708.x

Darvill, R., Skirton, H., & Farrand, P. (2010). Psychological factors that impact on women's experiences of first-time motherhood: A qualitative study of the transition. *Midwifery*, *26*(3), 357–366. doi:10.1016/j.midw.2008.07.006

Drentea, P., & Moren-Cross, J. L. (2005). Social capital and social support on the web: The case of an Internet mother site. *Sociology of Health & Illness*, 920–943.

Ellison, N., & boyd, danah. (2013). Sociality through Social Network Sites. In W. H. Dutton (Ed.), *Oxford Handbook of Internet Studies*. Oxford: Oxford University Press, 151-172.

Gibson, L., & Hanson, V. L. (2013). Digital motherhood: how does technology help new mothers? In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 313–322. New York, NY, USA: ACM. doi:10.1145/2470654.2470700

Hochman, N., & Manovich, L. (2013). Zooming into an Instagram City: Reading the local through social media.   First   Monday,   18(7).   Retrieved   from http://firstmonday.org/ojs/index.php/fm/article/view/4711

Hong, N. (2012). Chogi moseongsuhaeng-gi yeoseongdeul-ui seumateupon iyong (Smartphones Use of Women in their Early Motherhood). Media, Gender & Culture, 21, 135–164.

Jo, S., & Han, E. (2013). SNSui iyong-gwa gaein-ui sahoegwangye byeonhwa bunseog: SNS yeongyeolgwangyeleul tonghan sinloe sahoe guhyeon-e daehan jeonmang (SNS use and its impact on individuals' social relations). Korea Information Society Development Institute Basic Research, 1-180.

Leahy-Warren, P., McCarthy, G., & Corcoran, P. (2012). First-time mothers: social support, maternal parental self-efficacy and postnatal depression. *Journal of Clinical Nursing*, *21*(3-4), 388–397. doi:10.1111/j.1365-2702.2011.03701.x

Lee, J., & Bauer, J. W. (2010). Profiles of grandmothers providing child care to their grandchildren in South Korea. *Journal of Comparative Family Studies*, *41*(3), 455–475.

Lin, K.-Y., & Lu, H.-P. (2011). Why people use social networking sites: An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior*, *27*(3), 1152–1161. doi:10.1016/j.chb.2010.12.009

Lopez, L. K. (2009). The radical act of "mommy blogging": Redefining motherhood through the blogosphere. *New Media & Society*, *11*(5), 729–747. doi:10.1177/1461444809105349

Lothian, J. A. (2008). The journey of becoming a mother. *The Journal of Perinatal Education*, *17*(4), 43–47. doi:10.1624/105812408X364071

Madge, C., & O'Connor, H. (2006). Parenting gone wired: empowerment of new mothers on the internet? *Social & Cultural Geography*, *7*(2), 199–220. doi:10.1080/14649360600600528

Morris, M. R. (2014). Social networking site use by mothers of young children. *In Proceeding of CSCW 2014*, 1272–1282. New York, NY, USA: ACM.

Park, J., & Liao, T. F. (2000). The effect of multiple roles of South Korean married women professors: Role changes and the factors which influence potential role gratification and strain. *Sex Roles*, *43*(7/8), 571–591. doi:10.1145/2531602.2531603

Park, K.-S. (2013). Consecrating or desecrating filial piety?:Korean elder care and the politics of family support. *Development and Society*, *42*(2), 287–308.

Park, S. J. (2007). Educational Manager Mothers: South Korea's Neoliberal Transformation. *Korea Journal.*, *47*(3), 186.

Rogan, F., Shmied, V., Barclay, L., Everitt, L., & Wyllie, A. (1997). "Becoming a mother'--developing a new theory of early motherhood. *Journal of Advanced Nursing*, *25*(5), 877–885.

Rubin, R. (1984). *Maternal Identity and the Maternal Experience*. Springer Pub. Co.

Sung, S. (2003). Women reconciling paid and unpaid work in a Confucian welfare state: The case of South Korea. *Social Policy & Administration*, *37*(4), 342–360.

Turner, J. H. (2006). *Handbook of Sociological Theory*. Springer Science & Business Media.

Zhang, Z. (2010). Feeling the sense of community in social networking usage. *IEEE Transactions on Engineering Management*, *57*(2), 225–239. doi:10.1109/TEM.2009.2023455

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