

Smartphone as Polymedia for Mothers During Pandemic

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Abstract: Drawing from the notion of smartphones as polymedia, this study seeks to investigate how working mothers use smartphones to navigate multiple roles during the COVID-19 pandemic. Smartphones become an essential device for working mothers as it allows them to manage different relationships and tasks that are imperative to their various roles. This study employs a phenomenology approach, using interviews with eight working mothers in six cities in Indonesia. This study brings into light three relational dynamics of smartphones as polymedia that helped them navigate the change of the COVID-19 pandemic, namely entertainment, empowerment, and support.

Keywords: COVID-19, Indonesia, polymedia, smartphone, working mothers

Abstrak: Bertolak dari konsep smartphone sebagai polymedia, penelitian ini bertujuan untuk menginvestigasi bagaimana ibu bekerja menggunakan smartphone untuk menavigasi berbagai peran mereka selama pandemi COVID-19. Smartphone telah menjadi alat yang sangat penting bagi ibu bekerja karena memungkinkan mereka untuk mengelola hubungan dan tugas yang bermacam-macam yang menjadi bagian tidak terpisahkan dari berbagai peran mereka. Penelitian ini menggunakan pendekatan fenomenologi dan wawancara mendalam dengan delapan ibu bekerja di enam kota di Indonesia. Penelitian ini memberikan pemahaman lebih mengenai tiga dinamika hubungan smartphone sebagai polymedia yang membantu mereka menavigasikan perubahan di masa pandemic COVID-19, yaitu sebagai hiburan, pemberdayaan, dan dukungan.

Kata Kunci: COVID-19, ibu bekerja, Indonesia, polymedia, smartphone

The COVID-19 pandemic hit the world hard and working mothers were among the most disadvantaged by its effects (Augustine & Prickett, 2022, p. 1234; Rakhmawati, 2022, p. 65; Vargas Rubilar, Richaud, Lemos, & Balabanian, 2022, p. 2). Increased parenting time due to home-based learning, and the demand to multitask and juggle between work, domestic care, and child care are experienced by working mothers in different countries (Akuoko, Aggrey, & Mengba, 2021; Beno, 2021; Clark et

al., 2021). The author observes working mothers' reliance on their smartphones to maintain different responsibilities during this period in Indonesia. A smartphone is not only a necessity to manage work-related responsibilities and their social life but also to support them in managing domestic responsibilities and maintaining familial relationships in a time of physical distancing. This situation prompts the author to explore further how the smartphone is used by working mothers beyond social

and entertainment needs and to argue in this article that the smartphone is indeed a polymedia 'environment of affordances' (Madianou & Miller, 2013, p. 180) that is crucial for working mothers to navigate their multiple roles during the pandemic.

The impact of the pandemic on health, economy, and social aspects is felt by everyone in the world and is unprecedented. Indonesia is no exception. In 2020, the nation felt the severity of it and the national economy slowed down to minus 5.3% in the second quarter, pushing the government to revise its National Medium Term Development Plan (RPJMN) 2020-2024 to prioritize overcoming the pandemic (Muhyiddin & Nugroho, 2021, p. 3). In the same year, IDR937.42 trillion was allocated in the state budget for the prevention of COVID-19, along with IDR86,32 trillion in the regional budget (APBD), which resulted in a deficit financing of IDR1,226.8 trillion (Muhyiddin & Nugroho, 2021, p. 3).

In the health sector, with a total case of 6.35 million people, and more than 158,000 deaths (Our World in Data, 2022) Indonesia is among the top 20 in terms of cases globally. The pandemic also highlights the need for a stronger healthcare system in the country where 5.65% of Community Health Centers (*Puskesmas*) do not have doctors present (Risalah, 2022). In July 2022, there's also a need for 130,000 more doctors in Indonesia to fulfill the WHO standard of one doctor per 1,000 people (Kusnandar, 2022).

However, the impact of the pandemic is not only felt in the economic or health

sector but also the social sector. The pandemic pushed 1.6 billion students out of school (ACT-A Facilitation Council, 2020, p. 2), and forced them to stay and study from home. The same also goes for the workforce; some of whom were also forced to work from home (WFH). This led to a situation where different activities that used to take place in different spaces outside the home became forced to share one space: the home. This condition, combined with external volatility and uncertainty caused by the pandemic, became a catalyst for domestic turmoil in many households, such as domestic violence toward women and children (CNN Indonesia, 2021; Muna, Rauf, & Krismantari, 2020) and intensification of multitasking or multirole of mothers (Akuoko et al., 2021; Manzo & Minello, 2020). It is this latter part – the intensification of multitasking of mothers – that will be the focus of this paper.

This paper aims to investigate how Indonesian working mothers use smartphones to navigate their multiple roles in the domestic and/or public spaces during the COVID-19 pandemic. Mothers are one of the social groups that were most disadvantaged by the pandemic, mainly due to two things. The first is the forced shift of the location of various activities of the family members; from outside of the home to inside of the home – a domain that is conventional mom's one. The second is the gender structure in Indonesian society that places women as the main caretaker of the house and child. These two things combined led to an additional burden

for mothers, especially working mothers during the pandemic (Beno, 2021; Manzo & Minello, 2020). Working mothers faced the double burden of child caretaking, household, career, and other relations (e.g., extended family) during the pandemic. This paper argues that the smartphone in that context becomes a tool that helps them navigate through and manage their multiple roles—as a mother, wife, worker, daughter, etc.—during a time of limited physical interaction and increased digital interaction.

Previous studies on working mothers' experience during the pandemic mostly focus on the disproportionate burden in parenting and caregiving, domestic and household arrangements, and psychological stress and well-being. Some research analyzed working mothers' experience during the pandemic concerning their usage of information communication technology—namely smartphones—that became crucial during that period, especially in larger cities. The research addresses smartphone usage during the pandemic mostly focus on app usage on smartphones for health matters (Alberts et al., 2021; Barreto et al., 2021; Cheung, Pires, Rosenberger, & De Oliveira, 2020; Storeng & de Bengy Puyvallée, 2021; Wu et al., 2020), social media or smartphone addiction (Islam et al., 2021; Serra, Lo Scalzo, Giuffrè, Ferrara, & Corsello, 2021; Zhang, Chen, Tong, Yu, & Wu, 2021), and social distancing (David & Roberts, 2021; Wetzal et al., 2021). Studies rarely spotlight how working mothers use smartphones during the pandemic,

something that the author observes is very common in Indonesia during the pandemic, as they are smaller and easier to use while juggling their multiple responsibilities.

This paper would like to contribute to the body of literature by incorporating the analysis of smartphone usage as one of the ways that working mothers navigate through their multiple roles and increased burdens during the COVID-19 pandemic. Using the concept of polymedia as a conceptual framework, this paper finds out about how working mothers in Indonesia use smartphones to navigate their multiple roles during the COVID-19 pandemic. A deeper understanding of this dynamic would shed more light on how smartphones could be used to empower working mothers and women in general. Moreover, it would provide practical suggestions for mobile app developers to develop apps that fulfill mothers' needs in juggling their multiple roles. Furthermore, this study also expands the theorizing of polymedia outside familial relationships to a wider network of friends, colleagues, and other essential relationships.

Studies on working mothers' experience during the pandemic all voiced similar sentiment—that the increase in remote working and homeschooling leads to an unequal domestic arrangement, longer worktime and hours spent on household management, disproportionate parenting time between working parents, and increased psychological distress (Akuoko et al., 2021; Augustine & Prickett, 2022; Manzo & Minello, 2020; Prabowo, Ellenzy,

Wijaya, & Kloping, 2022). These studies took place in different parts of the globe, but the result is quite similar, signifying familiar gender inequality practices that are strengthened further by the unprecedented event of pandemic.

In their research based on the American Time Use surveys, Augustine and Prickett (2022, p. 1236) observe a rather interesting contrast between the gender gap in total parenting time, compared to time spent in educational activities. Data from pre- and post-pandemic time diaries in 2019 and 2020 shows that the former narrowed by 18 percent, whereas the latter increased by 113 percent. This shows that mothers are indeed burdened with more stressful and intensive parenting tasks, such as supervising homeschooling and taking over the role of a teacher. Dewi, Raisa, Utami, Simanjuntak, and Riany (2022) in their study of Indonesian mothers' experience during the pandemic also share a similar finding that working mothers are struggling with a lack of time to manage their household and assist children with homeschooling, while also trying to fulfill their obligations at work. Moreover, studies also note that working mothers suffered more due to the demand for multitasking compared to fathers during the pandemic (Akuoko et al., 2021; Augustine & Prickett, 2022; Vargas Rubilar et al., 2022). Consequently, this situation leads to higher stress and anxiety that are experienced by working mothers during the pandemic (Dewanti, Novitasari, & Jayanti, 2021; Mahamad, Ghani, Luna, & Rivadeneira, 2021).

These multitasking and multiple roles that working mothers assume, combined with the social distancing policy that the government implemented during that period, is—to a certain extent—alleviated by their smartphone. It is through their smartphone that they maintain and manage different relationships—work, family, friends, domestic vendors or helpers, and conduct various tasks. This paper builds upon the concept of polymedia (Madianou & Miller, 2013) to examine these relationships and how they are managed through various applications available on smartphones.

Polymedia itself is defined as an emerging environment of communicative opportunities that functions as an 'integrated structure' within which each medium is defined in relational terms in the context of all other media (Madianou & Miller, 2013, p. 170). Initially grounded on empirical research among transnational families who live in different countries and therefore must resort to mediated communication, polymedia emphasizes the physical distance and how interpersonal relationships are maintained through various means of communication. However, what makes polymedia a unique concept is not how people use the various means of communication as discrete technology, but how they treat them as an 'environment of affordances' (Madianou & Miller, 2013, p. 180).

Through the development of polymedia, Madianou (2014) further argues that the smartphone is also polymedia because it provides an environment of

affordances that users navigate and exploit to manage relationships with family members and express their feelings. Originally, polymedia emerged from interpersonal, familial relationships that are mediated due to physical distance. However, the COVID-19 pandemic and the lockdown and/or social distancing policy that governments across the globe enforce also lead to physical distancing that calls for mediated communication. Therefore, the relationships that one must manage during social distancing could also be examined using the polymedia concept. Since the relationships that required maintaining during that period are not just familial relationships, but also professional relationships, school- and children-related relationships, and domestic-related relationships, the environment of affordances in smartphones provides a robust ground for exploration to expand the polymedia concept.

Polymedia has three important preconditions: (1) access, (2) affordability, and (3) literacy. These conditions must be fulfilled so that the emphasis of the theory is fully on how users navigate and exploit the various affordances according to their needs – emotional and practical – and each interpersonal relationship. If these preconditions are not met, there would be issues such as cost and limitation of access that could undermine the theory.

Research regarding polymedia mainly zooms in on various cultural contexts, since the usage of technology, including media, is highly affected by social and cultural

situations as well (Goggin, 2006, p. 13). Pei (2021) studies the juxtaposition of traditionally defined gender constraints and desires for modernity among *dagongmei* in post-Mao China within the complicated polymedia environment. Examining the Indonesian mothers who work as migrant domestic workers in Hong Kong, Waruwu (2022) unfolds how their use of mobile phones shapes family practices and how power structures and family intimacy are imposed through mediated communication.

METHOD

This research employs a qualitative approach with phenomenological methods to collect data from eight working mothers in six cities in Indonesia. The phenomenology approach is used for this study. The author would like to argue that polymedia in this context can be studied using that approach since it is the experience of the mothers with polymedia in a specific context in time (pandemic), albeit Madianou and Miller (2013) state that ethnography is the best research method to study polymedia. Phenomenology as a lens to learn about the working mothers' experience could enrich the understanding of polymedia and contribute to the body of knowledge by providing alternative research methods by putting polymedia in a specific context but still relating it to the original concept of polymedia as a construction of culture. Data gathering was done through semi-structured in-depth interviews through *Zoom* or *WhatsApp* call/video calls and a brief online diary using *Google Forms*.

Before data gathering, all participants expressed consent both orally and in writing (through *Google Forms*); and all data collected were handled carefully and not shared with anyone outside this research.

Participants for this research were chosen based on purposive sampling with criteria: (1) working mother (could be part-time, full-time, or business owner) of at least 1 child who is still in primary-education age, (2) living in urban areas in Indonesia, (3) owning and using a smartphone daily, and (4) willing to be interviewed. The eight participants live in Jakarta, Tangerang Selatan, Bontang, Bekasi, Padang, Makassar, and Sumbawa, and have at least a child who is in primary school, with various professions.

These mothers were chosen using convenience sampling, from the author’s network; followed by snowballing from friends-of-friends who suit the criteria and are willing to participate.

The interview transcripts were coded using inductive coding, followed by open coding to find smaller concepts related to the study. After that, data was further coded and analyzed using axial coding, whereby the data from the open coding are put

together in new ways to create a meaningful relationship (Bryman, 2012). Throughout the research, a reflexive approach was taken, acknowledging the author’s subjectivity. Before data collection, the author reflected on their own experiences and strived to incorporate broader possible experiences and meanings other than their own, which is then translated into the interview guideline. During the interview, a semi-structured approach was taken to ensure that the participants were allowed enough room to express and reflect on their own experiences. This reflexivity continues through analysis and discussion as well.

The research also has limitations, hence the inference should be made carefully. The research explores the experiences of working mothers in a specific context and specific timeframe and may not reflect the experiences of others—even in similar situations.

FINDINGS

Contextual Prompt: Higher Stress-Level due to The Unknown, The Uncertain, The Drastic Change

Firstly, this research finds similar experiences among participants that serve as a contextual prompt to incorporating

Table 1 Respondents’ Information

Respondent	A	B	C	D	E	F	G	H
Age	38	37	39	34	38	38	36	34
Number of children	2	3	3	2	3	2	2	1
Profession	Doctor	Advertising manager	Dentist	Business owner/fitness trainer	Doctor	Civil servant	Civil servant	Civil servant
City	Jakarta	Tangerang Selatan	Sumbawa	Jakarta	Bontang	Bekasi	Makassar	Padang

Source: Primary Data (2022)

smartphones in navigating their multiple roles. The pandemic indeed brings additional stress to the participants who feel that—especially in the early days—there is a lot of uncertainty and unknown information regarding the COVID-19 virus and how to handle the outbreak. “In the early pandemic, it was truly stressful. We still had to try to understand the protocol, and each mom has their own understanding” (Respondent E, doctor, interview, 17 April 2022). That uncertainty, combined with the government’s policy to limit mobility through the Restrictions Towards Community Activities (PPKM) policy, further incited stress in different aspects of their daily life, mostly in the logistic aspect and parenting aspects.

On the logistic aspect, participants shared the difficulty in managing logistic needs that the PPKM policy entails, such as sharing rooms and devices for each family member to conduct their work or school routine. This is particularly prominent for respondents with more than two children who are of school age, whose schools implement daily *Zoom* meetings at school hours, and both parents working.

In the morning, the kids all have *Zoom* (schooling) at the same time. They also fight for the gadget, and they take turns using the three gadgets that we have at home. It gets problematic if there are four people at home who needs to *Zoom*. Someone has to let go (and not attend school). (Respondent B, advertising manager, interview, 6 April 2022)

Besides, the logistic aspect in terms of network and connection availability is

also of concern, especially when work and school responsibilities require a network connection.

Since PPKM, you could say I was stressed out. At that time, the internet network and operator were also in shock. They weren’t ready to serve everyone. (Respondent F, civil servant, interview, 19 April 2022)

On the parenting aspect, the stress was felt by all respondents because they have to handle their usual work responsibilities along with parental responsibilities that were multiplied during PPKM and home-based learning periods. Parenting becomes more than just caretaking but also supervising schoolwork. Even if fathers are present at home due to work from home policy, the mothers’ presence is demanded more by the children.

It is one of the stress factors because I have to stay beside my child to know what the teacher asks them to do, while I still have to work too, so it requires high attention. The first year was the toughest, 2020. Moreover, there were a lot of online meetings that made me even more stressed out. (...) I felt like I want to divide myself. Because my husband also works from home, he is home, but the kids still only listen to their mom. (Respondent F, civil servant, interview, 19 April 2022)

Since the pandemic, the stress level of working from home turns out to be high. As a mom, I have to take care of my kids, and when they see me, they want to play with me, while I have to work. (Respondent H, civil servant, interview, 21 April 2022)

It’s hard to divide my brain. The kids need constant supervision. At the beginning (of the pandemic) Y

sometimes only lies around during class *Zoom*, H must also be supervised all the time. If I have a meeting during that time, I'm basically dead. (Respondent B, advertising manager, interview, 6 April 2022)

At times, it gets even more challenging because, for some respondents, their work seems to increase during the pandemic. "It also seems like work no longer knows the time (limit), sometimes in the evening there's still a request to pull up data" (Respondent H, civil servant, interview, 21 April 2022).

This higher stress level on an unprecedented scale as the respondents experienced further prompted some of them to consult a psychologist or therapist to help alleviate and deal with the stress.

For therapy, I just began in the pandemic. I felt that I had a lot of excess baggage, like from my childhood. My problem was not really work-related, but more about the kids. (Respondent D, business owner/fitness trainer, interview, 6 April 2022)

I've also gone to a psychologist, but not regularly. Luckily, I feel like my mental state is not so bad that I require regular counseling. So far, I've talked twice to a psychologist. It was quite good. It was relieving, it gave me direction and assurance. (Respondent B, advertising manager, interview, 6 April 2022)

I've attended a psychological class to handle my mental breakdown and deal with my inner child, so it's really helpful. (...) Indeed, I was stressed because I could not go home to Jakarta regularly, but now I know how to manage my emotion. (Respondent C, dentist, interview, 3 April 2022)

Observing how the respondents talk about their experience in dealing with the mental breakdown or stress through professional help also sheds light on how mental well-being is perceived among working mothers. On one hand, the pandemic leads to a higher prevalence of psychological issues such as anxiety and depression (WHO, n.d.), but on the other hand, this situation helps normalize mental health issues and reduce stigma for those who seek professional help.

However, besides sharing their stressful experience, the respondents also share the bright sides to their experiences and how they manage to overcome the challenges or cope with their problems—highlighting the resilience of working mothers.

Again, what makes it easier for me is the workroom upstairs, or when I have to go to the kitchen, the kids know that we will be 'different people'. (...) I only go to the kitchen after my work is done. And the kids know that when I'm in the kitchen they can't disturb me. (Respondent D, business owner/fitness trainer, interview, 6 April 2022)

Even if the kids bug me all the time, I'm also happy because I can watch them grow in the past two years. (Respondent H, civil servant, interview, 21 April 2022)

When it gets tough, well, I just try to relax and let it be... (Respondent B, advertising manager, interview, 6 April 2022)

Smartphone Usage to Manage Relationships: Family, Work, and Extension of Familial Needs

Against the background of the higher stress level during the pandemic and the PPKM policy, the respondents need to

shift to digital communication to manage different relationships that could previously be managed physically (or, contextually prompted to use their smartphones more). The most prominent ones are relationships with family, particularly extended family, i.e., parents or parents-in-law, and with work. What usually passes as usual interaction, such as going to the parent's house for weekly lunch, becomes a luxury due to the physical distancing and the fear of exposing elderly or young children to potential COVID-19 infection. This situation calls for other ways to manage and maintain those different relationships.

Among respondents, the most prominent relationship that they maintain carefully during the pandemic is with their parents and/or parents-in-law. Since generally Indonesian culture is quite tight-knit, grandparents' involvement in their grandchildren's life is rather big, as is the case among the respondents. Respondent G lives with her father and he helps with the grandchild's caretaking daily, especially when the respondent has to attend to her work. Respondent B also lives nearby to her father and mother-in-law, and both often come to visit during the week. The other respondents live in different cities with their parents but still regard communicating with them as a necessary part of their daily or weekly routine.

To maintain the relationship with parents and parents-in-law, respondents mostly resort to group chat—mostly using *WhatsApp*—and daily or weekly video calls to check on each other and to report about the children. *WhatsApp* chat is used for a

casual update or just talking among each other, and video call is more often used for grandparents to see their grandchildren in a synchronous, audio-visual manner. Video calls for respondents whose parents live in different cities have been a routine even before the pandemic. However, the pandemic makes the video call even more important to check on each other's well-being and as social support.

My mother alternates between asking her grandchildren's updates from me and my sister who also has a baby. The same thing goes for my husband's family. So, we usually keep in touch to help each other. (Respondent H, civil servant, interview, 21 April 2022)

(Regarding my) intensity of contact with my parents and sister, almost every day. Mostly through chat, but we also make video calls quite often, once a week, or sometimes twice or thrice. During the height of the pandemic, we also have *Zoom* (meetings) with our nieces and nephews. (Respondent C, dentist, interview, 3 April 2022)

Besides maintaining relationships with family digitally, relationships with work-related parties also shift to the digital platform. For work, respondents mostly use their laptops, but it is quite interchangeable with their smartphones since many of the applications can be used on both gadgets, such as *Zoom*, *Google Meet*, and *WhatsApp*. *WhatsApp* is the most prominent application to maintain work-related relationships as well, especially its group chat. However, respondents also use email, *Zoom*, and other applications, such as *Slack* and their office-specific app to manage work and communicate with their colleagues.

Work relationships and their dynamics during the pandemic are among the things that incite more stress among respondents. Respondents who work as private employees and civil servants note that work hours during the pandemic are somehow prolonged because meetings last until after usual office hours and work requests and coordination still happen during the weekend. Respondents who work independently and as business owners must keep their businesses going in the middle of economic decline and uncertainty. Quite the contrary, respondents who work as specialist physicians and dentists shared that their workload is not as high as pre-pandemic because people limit going to doctors and hospitals unless it's urgent. Regardless, relationships with colleagues, direct reports, and team members must be done digitally, through mediated communication.

For work, there are so many *WhatsApp* groups. During the pandemic, an in-person meeting is limited to a maximum of five people, so we do a lot of *WhatsApp* video calls or prepare a *Zoom* session. (Respondent E, doctor, interview, 17 April 2022)

It's actually the work from the office that's more difficult to manage (compared to children's schooling), such as through *WhatsApp* and *Zoom*. It's tougher. (Respondent G, civil servant, interview, 1 September 2022)

On top of family and work, other relationships need to be maintained during the pandemic because of the physical distancing policy. These relationships include, but are not limited to, teachers from school and domestic vendors that support working mothers to manage their domestic

chores while juggling their multiple roles. Domestic vendors are any household-related service or goods providers who run their business traditionally without any digital presence except a mobile number and/or *WhatsApp*. An example of domestic vendors is catering providers that respondents B, G, and H use so they can provide food at home when they don't have time or energy to cook themselves.

After that, I prepare lunch. If I'm tired, I'll order catering. But if I'm in the mood, I'll cook. Sometimes my assistant cooks as well. Nearing the evening, I also cook, so I go back and forth between the kitchen and my laptop. There were times when I had to bring my laptop to the kitchen as well. (Respondent F, civil servant, interview, 19 April 2022)

Finally, other important relationships that respondents manage during the pandemic could be said to be of underlying importance for respondents' well-being: social relationships or friendships. Respondents who usually meet their friends and social circles regularly before the pandemic, must shift this online and resort to digital interaction through *WhatsApp*, social media, and occasional video calls. These relationships, although seemingly moved to the background during the pandemic, are crucial for respondents to maintain their 'sanity', mental well-being, and social needs as a person—not (just) a mother, manager, employer, tutor, or wife—but simply as her own person.

With my college friends, I usually contact them for heart-to-heart sharing

(*curhat*) or just to talk. When I work at the office, I can just talk to the person next to me whenever I get bored, but now I can't do it anymore, so I talk through *WhatsApp*, with my college friends. (Respondent B, advertising manager, interview, 6 April 2022)

The (social) circle that I meet regularly now are moms from school and people from the fitness studio – the circle that I meet because it's essential for me. So those circles that I meet after I'm an adult (become a parent), I keep up on Instagram. (...) Now we have a new habit after the pandemic, which is to contact people that we haven't seen in a long time. This is a form of us not taking for granted the age (life) that we have from the pandemic. (Respondent D, business owner/fitness instructor, interview, 6 April 2022)

Multiple Roles, Multiple Needs, Multiple Apps: Meaning Construction of Smartphone Usage

During the pandemic, respondents use multiple applications on their smartphones and laptop to fulfill different needs in their different roles. This study finds four different roles: (1) mother/learning supervisor, (2) mother/domestic caretaker, (3) mother/worker, and (4) mother/friend/person, and each was indeed a construction of meaning that are entwined with their smartphone and/or laptop usage.

As mother/learning supervisors, they need prominently to ensure that their child's learning is progressing according to the school's direction. Since different schools and different cities adopt different methods of home-based learning, respondents also

use different applications to cater to each of their needs. For example, respondent E uses *WhatsApp* groups, *WhatsApp* chat, and *Google Classroom* for different needs. The group is used to communicate with other parents in the same class, to confirm the child's tasks and assignments, and as a platform to receive general updates from the teacher. Chat is used to communicate directly with teachers and/or other parents, and Classroom is to check learning materials and worksheets from the teacher. Other respondents use different platforms such as *YouTube*, to upload their child's video assignments since many of the child's learning progress are to be submitted in video format.

For my child who is still in kindergarten, in the beginning, we didn't use *Zoom* and just submitted video tasks on *WhatsApp*. It gets rather confusing and takes so much of our phone memory. The teachers were looking for something easy, so all videos were posted on *WhatsApp*. Then the parents suggested that the videos to be uploaded on *YouTube*, and they agreed. (Respondent E, doctor, interview, 17 April 2022)

As mothers/domestic caretakers, they need mainly to ensure that the home is taken care of in terms of basic daily needs. Generally, this includes providing meals for the family, grocery shopping, doing laundry, and ordering gas and mineral water. Although this role is one, they have assumed even before the pandemic, the sudden shift in the global situation and the addition of the mother/learning supervisor role demands them to adjust how they fulfill

this role. Respondents also share different experiences in terms of their domestic caretaking routine during the pandemic. Respondent A, who before the pandemic usually subscribed to daily catering for her family, had to cook because the catering service stopped taking orders due to the pandemic. On the contrary, respondent A, who often cooked before the pandemic, chose to order food delivery, or subscribed to daily catering because she had to work and took care of the children and no longer had time or energy to cook.

It's hard because I have to cook since it's hard to order food from outside during the PPKM period. For vegetable shopping, it's more economical to do it at the market, and there are not so many supermarkets (in Sumbawa). (Respondent A, doctor, interview, 12 April 2022)

To manage this role of mother/domestic caretaker during the pandemic, respondents use *WhatsApp*, grocery shopping apps—such as *HappyFresh*, *Rak Sayur*, and *Astro*, and e-commerce apps—such as *Tokopedia* and *Shopee*. *WhatsApp* is used to contact domestic service or goods providers who run their business traditionally without any digital presence except the mobile number and/or *WhatsApp*. These domestic vendors include catering providers, laundry providers, mineral water, and cooking gas providers.

For daily shopping, there's usually a mobile vegetable seller (*tukang sayur*) in my housing area. But I usually buy vegetables online. In Padang, we have *Rak Sayur*, similar to *Happy Fresh* in Jakarta. Even though it's slightly more

expensive, buying it online saves a lot of time compared to going to the traditional market. (Respondent H, civil servant, interview, 21 April 2022)

Since the pandemic, I buy vegetables online. And it goes on until now since I feel lazy to go out (to buy vegetables). In Bontang, there's usually an *Instagram* account and phone number for local vegetable sellers. We also have many local couriers. (Respondent E, doctor, interview, 17 April 2022)

These domestic vendors become valuable partners for respondents during the pandemic when there's an increased workload from work and taking care of the children and their home-based learning needs, and decreased time to prioritize domestic caretaking. These domestic vendors are usually reachable through *WhatsApp* or mobile phones, and hence *WhatsApp* is the main app they use in managing the little things that are quite vital to ensure fulfillment of daily needs.

Besides domestic vendors, respondents also rely on shopping apps to fulfill their domestic needs. Weekly or monthly grocery shopping is sometimes done directly at the shops to get out of the house during the PPKM period and as entertainment for stress relief, but some parts of the shopping routine shift to online platforms. The main reasons respondents mention for preferring to shop online are time efficiency and cost efficiency. For some respondents, online shopping saves time compared to going to the market or supermarket. In some cases, it's more economical to buy online, especially when there's a free delivery

promo. Online shopping also allows them to get goods that are otherwise hard to get in their local supermarket.

I usually do online shopping for household needs, such as diapers. It's cheaper to buy diapers online here in Padang, especially since it's free delivery. Even without free delivery, it is still cheaper to buy it online compared to regular stores. (Respondent H, civil servant, interview, 21 April 2022)

I use *Klik Indomaret*, *Alfagift*, *Shopee*, and *Tokopedia* for my online shopping needs. In Makassar, there are some local stores, but since I don't cook, I usually don't buy from them. For my baby's weaning needs (MPASI), I usually buy fresh vegetables on *Tokopedia*. They deliver it instantly and I don't have to buy it in big quantities since it's for a baby. (Respondent G, civil servant, interview, 1 September 2022)

For shopping, I like to go out to do it so I get to go out of the house. But if it's urgent, I used *GoShop* or *GoMart*. I don't really use *HappyFresh* because of my phone's limited memory. Now I'm trying *Astro*. For the traditional market, I usually just go once a week. I use *Tokopedia* more than *Shopee*. (To buy from) my regular pet shop and to pay bills I use *Tokopedia*. I use *Shopee* if I want to buy cosmetics. (Respondent B, advertising manager, interview, 6 April 2022)

The respondents' preference on which app to use to buy what, when, and how is also quite notable. Some respondents prefer quick, instant delivery even though it's slightly more expensive, but some don't mind the wait. Some respondents switch between different apps to buy different things, but some prefer to use just one or two apps for all their needs. This preference,

interaction, and negotiation with their smartphone are related to the concept of affordance, which will be discussed more in the discussion section. Related to the above-mentioned roles, respondents also mentioned their need to manage financial matters, which is done through mobile banking apps and/or e-wallet apps. Thus, respondent G associates smartphones with money since many transactions are done through smartphones.

The next role assumed by respondents is mother/worker that, like the mother/domestic caretaker role, they have assumed even before the pandemic. Once more, the pandemic pushed them to redefine their mother/worker role because they have to juggle it with their other roles that all take place inside the home, making the home an impromptu node of three otherwise separate spaces for their different roles.

To fulfill this role, respondents mostly use their laptops for meetings, webinars, and other work-related tasks. Correspondence is done through email, but regular coordination and clarification that are usually done in person are now done through *WhatsApp* and/or *Slack* – a task management app. Besides email, *WhatsApp*, and *Slack*, respondents also use the calendar to manage their schedule and other apps that are specific to their work needs. Respondent G, for example, constantly monitors her office's dashboard which is available in the desktop version and in the mobile app that enables her to do her work from her smartphone. The apps that are required for work-related needs are

generally available in both desktop and mobile app versions, making it easier for respondents to attend to their work from their smartphones.

Besides the three roles described above, respondents also have another role that is quite essential for their being, namely as a person/friend. This role is a basic one that had to move to the sideline during the pandemic. Nonetheless, although in-person contact is limited, respondents manage to fulfill the needs for this role through online interactions through *WhatsApp* chats, group chats, calls, and other means of entertainment and self-fulfillment. For entertainment, respondents mention different things they do to relax, take a break, or have fun. Although *Netflix*, *Disney Hotstar*, *YouTube*, and *Instagram* are mentioned by almost all respondents as their relaxation outlets, some of them find joy in participating in self-enrichment activities or in organizing things.

For webinars, between organizing and participating, I participate more because I enjoy it. Moreover, there are also *Instagram* live sessions, (I could) watch Ms. Elly Risman, dr.Aisyah (Dahlan) about parenting content. There are also plant auctions too. Cooking and making pudding. There are a lot of opportunities to learn new things or to get a certification. I feel refreshed if I watch a webinar. (Respondent E, doctor, interview, 17 April 2022)

For entertainment, I feel entertained when I structure something. Dimas (husband) event asked what's my hobby, and I said that I like making SOPs. After I think about it, my soul is a true homemaker. When I manage the house, it's my zen time, even though

it's a tiring hobby. (Respondent D, business owner/fitness instructor, interview, 6 April 2022)

These multiple roles that the respondents assume come with different needs and requirements. In turn, to fulfill those needs in the time of limited physical contact and direct in-person interaction, the respondents use different applications on their smartphones according to their needs, their situation, their personal preferences, and the relationships they must manage. In this intricate and personal interaction with their smartphone, the notion of polymedia sheds light and helps explain how these working mothers navigate their multiple roles during the pandemic—a discussion that will be extended in the next section.

DISCUSSION

During the pandemic, working mothers assume even more roles due to the unprecedented circumstances that affect the whole world. Through those circumstances, they rely greatly on their smartphone to navigate their multiple roles as mother/learning supervisor, mother/worker, mother/wife, mother/friend/person. As noted by previous studies (Augustine & Prickett, 2022; Dewi et al., 2022; Hermann, Neale-McFall, & Man, 2021), working mothers is one of the most impacted demographic group by the COVID-19 pandemic. Their double burden from work and domestic and/or childcare are made triple (or even more) in the pandemic due to the implementation of the physical distancing policy that leads to additional responsibilities of supervising

their children's home-based learning, maneuvering through the uncertainty, and anxiety of an unknown fatal threat, and dealing with logistical issues of gadget, connection, and space availability at home.

The physical distancing policy is deemed the most appropriate to curb the spread of the virus and was implemented by almost all countries in the world. Therefore, studies show similar situations related to working mothers' struggle during the pandemic in various parts of the world, be it in Europe (Benou, 2021; Clark et al., 2021; Manzo & Minello, 2020), America (Hermann et al., 2021; Vargas Rubilar et al., 2022), and Asia (Mahamad et al., 2021; Rakhmawati, 2022). However, some of these studies also highlight the resilience of those mothers in coping with their struggles and stress. In their study, Manzo and Minello (2020) finds that working mothers in Italy creatively find ways to support each other and form what they call *communities of care*, through Zoom-mediated birthday parties, video aperitifs, or WhatsApp group support with a psychologist. A similar pattern also emerges from this study of working mothers in Indonesia.

This study finds that in the context of upper-middle-class Indonesia, working mothers cope with their struggle and stress in juggling their multiple roles during the pandemic with the help of their smartphones which helps them connect and maintain interpersonal relationships with different people in different roles that they assume. The smartphone provides entertainment through apps such as YouTube, Netflix,

Instagram, and Facebook. It provides empowerment to continue working from home, managing their household, taking care of the children, ensuring that home-based learning is going well, and taking care of their own well-being through apps such as email, WhatsApp, Zoom, Google Meet, and other Google Workspace apps, Google Classroom, as well as shopping and e-commerce apps. Lastly, it provides support in wading through the pandemic through WhatsApp (group chat, personal chat, video call, audio call), Instagram (feeds and Instagram Live), Facebook, and Zoom that allow them to see the struggles of others and how to cope with the situation.

The physical distancing policy results not only in social distance but also in psychological distance. However, smartphone—with their multiple apps—helps bridge that distance and support working mothers in navigating their multiple roles and responsibilities, from being a mother/worker, mother/learning supervisor, mother/domestic caretaker, and mother/friend/person. To manage the different tasks that different roles demand, they choose an appropriate different application on their smartphone according to their needs, circumstances, as well as social and emotional preferences. These apps also act as *platforms of care* for working mothers to share their stories of hardship and stress, receive support from others, or just be in a (virtual) environment that supports them and does not demand anything but their presence. This, to a certain extent, is what Madianou describes

as an *intense technological mediation of everyday life*, or *polymedia life* (Madianou, 2021). Thus, the following part of the discussion will explain how this study expands Madianou's concept of polymedia, especially in the context of Indonesia.

These working mothers navigate their multiple roles and need through their respective environments of communicative opportunities (Madianou, 2014, p. 678) to ensure that despite the forced changes that the pandemic brings, their children, family, and their daily life, as well as well-being are being managed. Communicating with parents shifts to *WhatsApp* groups, personal chats, as well as video calls, depending on the purpose, the message, and the timeliness of the matter in question. Colleagues and work in different contexts and tasks call for a different appropriation of communication methods—through email, *Zoom* meetings, *WhatsApp* groups, *Slack*, or *Google Drive*. For domestic caretaking, the applications they use vary greatly—e-commerce apps, grocery shopping apps, *Instagram*, *WhatsApp* groups, and personal chat—depending on the type of task they must do, the type of goods they need to buy, and the type of vendor they engage with. Sometimes, they move from one app to another to fulfill a task with certain and subjective preferences, e.g., checking between *Tokopedia* and *Shopee* for buying pet food and choosing which store has the best price, and closest distance (that affects delivery cost), and timeliness to deliver. This process of mediated communication with others and communicating with

the smartphone is also what constitutes a smartphone as polymedia, which emphasizes less on the technology per se, but also on the social and emotional considerations that affect that process.

Previous research on polymedia, as well as the initial study of the theory, mainly zooms in on interpersonal relationships between parties in different countries and how they navigate those relationships through mediated communication. Specific patterns then emerge from the context, time, and cultural differences they must overcome to maintain the relationship, such as the distant parenting control Waruwu (2022) finds in his study among Indonesian female migrant workers in Hong Kong or the negotiation that *dagong pei* must balance between modernity in their workplace in big cities and traditional values that their family upholds in their hometown (Pei, 2021). In other words, the notion of polymedia is mainly studied in the context of mobility and migration.

Some studies, however, expand the discussion of polymedia to a more general context of media abundance, or polymedia environment, in which various media that surround us plays an important role in how we interact with each other. Nisa (2019) observes how progressive and conservative Muslim women and their organizations leverage the polymedia environment to promote certain values, thus shaping civil Islam in Indonesia. In a similar avenue, de Bruin (2019) investigates how New Zealand migrants in Australia utilize all range of media at their disposal – including websites,

internet radio, *Skype*, *Facebook*, and DVDs – to manage effective relationships with people, places, and interests. Although his study is still in the context of migration, it expands the polymedia concept in its scope of communication beyond family members and the range of media one can engage with.

This study also seeks to expand on that scope of relational context from families and friends to colleagues and other parties related to working mothers' life, especially against the background of the pandemic. Before the pandemic, social and psychological distance caused by physical distance generally only applies to family members and close friends. However, during the pandemic, this distance applies to almost everyone—including colleagues, schools and teachers, and domestic vendors that is somewhat unique to Indonesian domestic life. Therefore, the concept of polymedia is relevant in this context, to further investigate how working mothers use smartphones as polymedia in navigating their multiple roles. Polymedia, which was previously conceptualized to describe how physically-distant family members maintain their interpersonal relationships through mediated communication, can be extended to a wider context—particularly in the pandemic—as physical distancing was implemented, and various interpersonal relationships needed to be maintained digitally.

Using polymedia as a concept also sheds understanding on the cognitive and emotional processes in deciding which app to use, which store to buy from, and which method of contact they prefer

to communicate with whom. Moving between apps to like a friend's *Instagram* story, sending direct messages to respond to another friend's *Instagram* story, responding on *WhatsApp* group chat for different circles of friends, and scrolling through tweets on *Twitter* to monitor one's nephew all signify specific relationship dynamics with specific people. The same could be observed with relationships beyond family and friends, such as with colleagues or children's teachers. Choosing to use *WhatsApp* group or direct chat, voice call or video call, or asking questions through *Google Classroom* or *WhatsApp*—are all results of cognitive and emotional considerations depending on who they're communicating with and for what purpose. As Madianou observed, how one uses which platform to communicate is a choice that is dependent on the relationship in question (Madianou, 2014, p. 678). In the Indonesian context of this study, the most convenient platform to maintain these relationships is *WhatsApp*, and thus it is used in many different ways: sending text messages in private chat or group chat; sending voice, photo, or video messages in private or group chat; private video call or group video call—all are choices made depending on the relationships that the participants maintain with regards to their different roles.

More interestingly, similar considerations are observed not just between people, but with smartphones, apps—and as an extension, goods—too. Shifting between *Tokopedia* to buy pet food, *Shopee* to buy cosmetics,

using *Astro* because one doesn't like the wait, and *Alfagift*, because the store is closer to one's house, are all products of the same cognitive and emotional considerations when interacting with apps in their smartphone. In this sense, polymedia has the potential to help understand relationships that are maintained using media, be it interpersonal or other else.

CONCLUSION

Through this research, it is apparent that smartphone as polymedia, with their affordances, helps provide working mothers with a powerful tool to navigate through their multiple roles. The meaning they embed in their smartphone and the different platforms and applications they use also reflect their usage to maintain different relationships in their multiple roles. Some applications are used heavily and regularly to ensure that all tasks, needs, and coordination with different people and parties are well-maintained—such as *WhatsApp*, e-commerce apps, social media apps, and mobile banking apps. Despite some differences in the platforms and apps used, it can be concluded that the meaning that is constructed in smartphone usage among working mothers is similar. The smartphone is a thing that is very important to them. Throughout the pandemic, but particularly during the PPKM or physical distancing period, working mothers felt close to their smartphones since it is a tool that they use to coordinate with others for work, domestic matters, family, and children matters, school, and many other things.

Moving forward, future research on polymedia could explore the use of

smartphones among the wider public—not just working mothers, and in different contexts beyond the pandemic. The pandemic brings a profound change in how we communicate with others, and what relationship means, and these will be defining characteristics of human-human and human-technology interactions in the post-pandemic world. This study only focuses on the experience of upper-middle-class working mothers, due to the three preconditions of the polymedia concept. However, in the future, it would be important to investigate the polymedia environment among adolescents who were very socially affected by the pandemic, and how that experience influence their choices in maintaining different relationships in their life using smartphones as an environment of affordances.

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