Speaking into an app or not? : Exploring the relationship between WhatsApp use and intergenerational communication in aging Singapore

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COMMUNICATION IN AGING SINGAPORE**

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**WEE KIM WEE SCHOOL OF COMMUNICATION AND
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INFORMATION**

A thesis submitted to the Nanyang Technological University in partial fulfilment
of the requirement for the degree of Master of Communication Studies

2021

Statement of Originality

I hereby certify that the work embodied in this thesis is the result of original research, is free of plagiarised materials, and has not been submitted for a higher degree to any other University or Institution.

2020.12.17

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Date

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ZHOU YICHEN

Supervisor Declaration Statement

I have reviewed the content and presentation style of this thesis and declare it is free of plagiarism and of sufficient grammatical clarity to be examined. To the best of my knowledge, the research and writing are those of the candidate except as acknowledged in the Author Attribution Statement. I confirm that the investigations were conducted in accord with the ethics policies and integrity standards of Nanyang Technological University and that the research data are presented honestly and without prejudice.

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Richard Seyler Ling

Authorship Attribution Statement

This thesis **does not** contain any materials from papers published in peer-reviewed journals or from papers accepted at conferences in which I am listed as an author.

2020.12.17

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Date

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ZHOU YICHEN

Acknowledgements

A year and a half ago, I arrived at Singapore Changi Airport at dawn and took East West Line to NTU with both anticipation and restlessness. At that time, I did not expect that it would be such a pleasant journey.

I often felt nervous and confused at the very beginning of my candidature. I was even unsure whether I could conduct the research well. Fortunately, all the teachers and friends I met here are friendly, who help me gradually build confidence.

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Abstract

When an aging society encounters mobile media age, communication across generations can become complicated. Mobile media can either improve intergenerational communication despite the geographical separation of generations or it can hamper intergenerational communication partly because of elderly people's technical literacy barriers. Guided by Intergenerational Solidarity Theory, the thesis explores the relationship between WhatsApp use and intergenerational communication among the aged in Singapore through the use of qualitative interview methods. The study focuses on how elderly people in Singapore perceive the role of WhatsApp in the communication with their adult children, how elderly people's usage of WhatsApp eventually leads to emotional bonding between generations, and how the use of WhatsApp contributes to the six different dimensions of intergenerational solidarity, both positively and negatively. This study also provides some suggestions regarding intergenerational communication in the context of an aging society. The focus is on improving the elderlies' subjective well-being. Meanwhile, the current situation of COVID-19 in the world has inserted itself into the research situation. Because of this unique global pandemic, the government in Singapore has encouraged people to communicate with each other through mobile media. This is a strategy with which to reduce face-to-face contact to avoid the spread of virus. After interviewing elderly people in Singapore, it has been found that they regard WhatsApp as a communication link between themselves and their children. Convenience and flexibility are two main reasons for using WhatsApp according to the interviewees. The usage of WhatsApp by

elderly people and their children in Singapore has created more opportunities for emotional bonding between generations. The analysis shows that WhatsApp usage is able to contribute to different dimensions of intergenerational solidarity in Singapore, especially associational solidarity, affectual solidarity, and functional solidarity. This can contribute to further research focusing on how to improve intergenerational relations.

Introduction

When an aging society encounters the mobile media age, communication across generations can become complicated. On the one hand, mobile media have made an important contribution to intergenerational communication, particularly given a situation in which there is a geographical separation of generations (Li, Lin, & Lee, 2016). This includes especially mobile media applications such as WhatsApp, WeChat, and Line, which can partly reduce some of the effects of physical and psychological distance caused by social changes such as urbanization. For example, an increasing number of the younger generation move out of parental homes to big cities in order to pursue an education and competitive jobs as they complete their transition to adulthood (Yu, Huang, & Liu, 2017). Living away from their parents can lead to an increasing social distance between generations. Meanwhile, pressure from their working life means that the pursuit of their careers can occupy much of their time. This can, in turn, lead to a lack of communication with their parents and exacerbate the problem of social distance.

For their part, mobile instant messaging services can bring some stress to elderly people's daily life partly because of technical and literacy barriers. For instance, many elderly people have difficulty in handling a variety of mobile applications on advanced mobile phones. One study exploring the factors which might hamper or facilitate elderly people's use of mHealth services to manage painful feelings shows that main barriers to device use include concerns about the cost, and a lack of skills in technology (Parker, Jessel, Richardson, & Reid, 2013). Another study of elderly people's attitudes

towards mobile phones usage finds that lack of English skills and the inability to upgrade the mobile software increased the barrier for older adults (Navabi, Ghaffari, & Jannat-Alipoor, 2016).

Late last century, the study of technology and aging was gradually emerging as an interdisciplinary field in the US (Ogozalek, 1991). Further, according to a UK study, new developments in assistive technologies are likely to make a significant contribution to the care of elderly people in institutions and at their homes (Miskelly, 2001). What such research suggests, therefore, is that in this increasingly technological society, there is a need to examine and address the benefits of mediation technology as well as the barriers inhibiting elderly people's use of devices and services associated with the information age (Eastman & Iyer, 2004).

Accordingly, this study aims to explore the relationship between WhatsApp use and intergenerational communication in aging Singapore. Therefore, it poses the following research questions:

RQ1: How do elderly people in Singapore perceive the role of WhatsApp in the communication with their adult children?

RQ2: How does elderly people's usage of WhatsApp lead to emotional bonding between generations?

RQ3: To what extent elderly people's WhatsApp usage is connected with different dimensions of intergenerational solidarity?

Considering the fact that communication is a reciprocal process, adult children's attitudes and behaviour have been explored as well. While this research gives some

insight into the wider issue of communication in Singaporean society after exploring the above three key research questions, the decision was made to concentrate the focus on the specific research questions. To address the broader issue would have drawn the focus away from the specific focus. Further, since the data was collected during the circuit breaker period, there were logistical issues associated with investigating the wider research issue.

Literature Review

Aging and Successful Aging

In the twenty-first century, population aging has become one of the most significant transformations in society. According to *World Population Prospects: the 2015 Revision*, the number of older persons (aged 60 years or over) has increased continuously in the past few years around the world. This growing tendency is predicted to accelerate in the following decades (Nations, 2015). According to Chen and Chan (2011), society becomes an “aging society” when the share of those aged 60 and 60 above accounts for more than 10% of the total. In Singapore, a city-state in Southeast Asia, circumstances are similar. According to figures from the Department of Statistics and the United Nations, the share of people aged 60 and 60 above in Singapore is expected to increase substantially from 19.7% in 2017 to 40% by 2050 (Malhotra et al., 2018).

As a result, there are many positive and negative implications for the whole human society with the process of the aging population. In this study, the implications brought by aging population are similar in the context of Singaporean society, which is also currently in the stage of “getting older” as mentioned above. By 2050, people aged 60 and 60 above will make up of 40% of the total amount of population in Singapore. Specifically, on the one hand, with the aging process, elderly people are increasingly seen as contributors to the whole society (Bond, Coleman, & Peace, 1993). For example, they are regarded as the repository of wisdom and expertise that can the development of Singaporean society. On the other hand, the aging population has also carried some

burdens on our society, including issues of increased need for caregiving, medical expenses, etc. For example, economic development might be lower in Singapore due to the decreasing proportion of younger labours (Ono & Maeda, 2002). Meanwhile, increased aging in the workforce might lead to a relatively imbalanced and unfair allocation of resources in Singapore as a growing number of elderly people will consume resources without producing (Oreopoulos, 1997). Further, caring for elderlies' physical and mental well-being can be a burden on Singaporean society as more young caregivers are needed due to the increased aging (Haley, 2003).

With the increasing research on aging issues, not only aging, but also successful aging has attracted public attention (Bowling & Dieppe, 2005). Successful aging is “not only limited to utilitarian outcomes but also refers to the attainment of personal goals of all types, ranging from the maintenance of physical functioning and good health to generativity, ego-integrity, self-actualization, and social connectedness” (M. M. Baltes & Silverberg, 1994). Therefore, in order to achieve successful aging, maintaining health is an important dimension as elderly people's all-round health is crucial and cannot be ignored. For elderly people's all-around health, it is strongly associated with the elderlies' objective and subjective well-being. Objective well-being can be defined as quality of life indicators, material resources, and social attributes while subjective well-being refers to the degree that one person feels satisfied with his or her overall life (Veenhoven, 1984) or the overall positive experience in one's life in more recent years. For example, how one person thinks the level of satisfaction and hedonic in his or her life can be understood as subjective well-being (Diener, 1994). Compared with

objective well-being, which is relatively solid and cannot be changed easily in later life, subjective well-being is often more malleable. In gerontology, maintaining a high level of subjective well-being, including self-esteem, life satisfaction, happiness, and social network, is regarded as one way to achieve successful aging (P. B. Baltes & Baltes, 1990; Pinquart & Sörensen, 2000).

In summary of this section, Singapore's population is currently experiencing a rapid process of aging and Singapore is described as the aging of a young nation (Malhotra et al., 2018). In order to achieve successful aging, elderly people's objective well-being and subjective well-being, especially the latter one, should always be emphasized. In aging Singapore, there is the question of how to face this situation, specifically, how to increase elderly people's subjective well-being in their later life. This will be discussed in detail in the following sections.

Social Ties, Intergenerational Communication, and Solidarity

For elderly people wellbeing arises from having a strong social network that is based on solidarity with other members of society, including both larger social networks and stronger ties with specific people like family members, close friends and so on. Solidarity as used here describes frequent warm or respectful interaction that can include various types of assistance while attending to one another's needs. It occurs among a small group (often but not always within a family) who share core values. There are six perspectives of solidarity being discussed in this paper, including associational, affectual, functional, normative, consensual, structural solidarity, which are associated with a successful aging process for elderly people and will be described

in detail later (Silverstein & Bengtson, 1997).

With the process of aging, there are often some changes in elderly peoples' lives, mainly the decreasing social networks, social ties, and solidarity. Aging is related to a decrease of supportive social ties and the appearance of social exclusion (Dolničar, Grošelj, Hrast, Vehovar, & Petrovčič, 2018). Elderly people's social ties can be limited due to physical conditions and geographical distance when becoming aging. For example, in the process of rearing children, their social ties from young adulthood have been left untended for many years but they still have many social connections, especially with their colleagues. After their children become adults, elderly people have also come to the age of retirement, the majority of their social connections from jobs can be less than before as well. As a result, their social networks and social ties might be limited in a relatively smaller size.

What will happen if elderly people's social networks and social ties become limited after retiring? This is a matter of concern since elderly people usually must rely on young people, including their adult age children, as well as younger friends, colleagues, and social group members, in varying aspects and degrees. Indeed, intergenerational relations, especially those of elderly people and their adult age children, should be emphasized in an aging society as their relations are more intimate and there is more emotional bonding. This is something that the current study has explored.

Different types of supporting and bonding between generations can influence the successful aging of elderly people. It is widely acknowledged that adult-aged children can provide elderly people with three forms of support: e.g. financial; emotional; and

instrumental support (Zhang, 2016), among which emotional support (the one that is the easiest to be ignored) can be done via multiple communication channels. Tellingly, positive intergenerational communication can promote intergenerational relations, lead to a higher level of solidarity between generations and thus benefit elderly people's subjective well-being.

The concept of solidarity originates from the field of sociology (Merz, Schuengel, & Schulze, 2007), including both macro, meso and micro level. The meso and micro level of solidarity have been applied in this paper. Generally speaking, macro level of solidarity starts from the perspective of the cohesion in the whole society, referring to an overall cohesion in the whole society while meso and micro level of solidarity discusses the issue in the context of the family and individual respectively. The detailed background of the macro, meso, and micro level of solidarity will be discussed in the following paragraphs.

The macro level of solidarity was raised by the French sociologist called Emile Durkheim in the late 19th century. This referred to a cohesive force or the over-individual cohesion in the society. In other words, solidarity can be regarded as a phenomenon which contributes to the cohesion of society. In many ways, social solidarity is synonymous with social cohesion. Emile Durkheim analysed solidarity from a macro angle under the societal context and emphasized its positive influences of solidarity among people (Dolničar et al., 2018). He also examined cohesion in the whole society, which was regarded as “a union of interests, purposes, or sympathies among group members” (Merz et al., 2007).

Gradually, the discussion on solidarity starting from the meso and micro level has appeared, which will also be applied in this thesis. Unlike Durkheim who often emphasized the positive side of solidarity, the current debate has also taken negative aspects of solidarity and ambivalence into consideration (Lüscher & Pillemer, 1998). Meanwhile, the contemporary solidarity discussion extends to solidarity between generations and families during the lifetime (Hammarström, 2005; Silverstein, Burholt, Wenger, & Bengtson, 1998), which all point to intergenerational relations (V. Bengtson, Giarrusso, Mabry, & Silverstein, 2002; V. L. Bengtson & Roberts, 1991).

Solidarity between generations can be influenced by values and attitudes and it might differ with the continuity of generations. For example, solidarity in first-generation immigrant families has been found to be relatively high (Lamb, 1998). It is mainly because they have experienced much more separation from the previous social and family network when compared with the following generations (Merz, Özeke-Kocabas, Oort, & Schuengel, 2009). The experience of cultural conflicts can also strengthen solidarity among the first-generation immigrants. For solidarity between families, although there has been no consensus yet whether solidarity and ambivalence completely depict the family relationships. Regardless, it is undeniable that the family is an important environment for the formation of intimate relationships among individuals.

Grounded in Durkheim's theory, Goffman has contextualized solidarity in interpersonal rituals, which happens in the small interpersonal interactions in everyday life, such as salutations, compliments, and apologies (Goffman, 1956). Following

Durkheim and Goffman, Collins points out the interaction ritual chains and the benefit of successful rituals, including producing emotional energy for group members, creating a momentarily shared reality, generating solidarity and so on (Collins, 2014).

All these developments from macro level to meso and micro level of solidarity have made it possible to discuss the solidarity concept in the context of family. The most typical approach to understanding solidarity at the meso and micro level are intergenerational solidarity theory, which argues that intergenerational solidarity is associated with a more successful aging experience (Roberts & Bengtson, 1990) by explaining the positive association between intergenerational relations, communication, and elderly subjective well-being. The model draws from the theories of social organization, which emphasizes “the importance of group norms and functional independence in behaviour” (Taipale, Petrovic, & Dolnicar, 2017). Besides the positive side of solidarity which is more suitable for the study of those relatively idealistic family relations, negative aspects, ambivalence, and conflicts have also been taken into consideration (Lüscher & Pillemer, 1998). For example, conflicts have been introduced into the study of solidarity and lead to a new model called the solidarity-conflict model (Steinbach, 2008).

There are six dimensions among intergenerational solidarity, which has been classified by Silverstein and Bengtson (1997) as a traditional way. First, associational solidarity refers to “the frequency and patterns of interaction connecting members to one another”. Second, affectual solidarity alludes to “sentiments exchanged in intergenerational family relationships, such as warmth, understanding, respect, and

trust”. Third, functional solidarity refers to “the idea of help exchange, covering a range of activities from financial assistance to immaterial help”. Fourth, normative solidarity indicates “the endorsement of familial obligations”. Fifth, consensual solidarity refers to “the degree of consensus in belief, values, or life orientations”. Finally, structural solidarity implies “the existence of an opportunity structure, such as the availability of family members that is reliant on physical proximity, morbidity, mortality, and fecundity”. Over time the validity of these six dimensions, which has been tested by a variety of studies (Taipale et al., 2017). However, when applying this framework, researchers often emphasize the positive dimensions while ignoring the negative. Therefore, this study has, at the point of departure, used these six dimensions of solidarity with both their positive and negative dimensions. Further, the analysis has also examined how they work empirically in a specific context. What is more, the fourth element, i.e., normative solidarity, and the fifth element, consensual solidarity are somewhat repetitive from the perspective of reaching agreement in the family context. In future work it would be interesting to explore the differences when applying these to the specific situations.

In summary of this section, it firstly applies the idea of solidarity to intergenerational interaction, especially high-quality intergenerational relationships with their adult-aged children, which can contribute to elderly people’s subjective well-being and then to successful aging as a result. This section then conceptualizes social ties in this study as the degree of solidarity within society and reviews the development of the concept called solidarity. Intergenerational relations are one of the most important

factors in research questions and in the next section, I have focused more on technical tools and devices which can influence intergenerational relations and communication.

ICT, Mobile Media and Mobile Instant Messaging

In this increasingly technological age, Information and Communication Technology (ICT) can contribute to both the instrumental and the expressive needs of a family. The latter can range from entertainment and social networking to providing one another a sense of security (Fortunati & Taipale, 2014). It has been found that “the greatest motivator for older adults to get online and use social networking sites is communicating with family and friends” (Zickuhr & Madden, 2012). Therefore, the relationship between mobile media use and intergenerational relations/communication is worth exploring. There is already some existing research. For example, a Finnish study found that as the physical distance between individuals increases, there are “fewer in-person, landline and mobile phone calls between the generations” (Hurme, Westerback, & Quadrello, 2010). Another study found that “intensive ICT use for entertainment (digital games and internet surfing) and communication was related to poor parent-child relations” (Punamäki, Wallenius, Hölttö, Nygård, & Rimpelä, 2009). The research on the mutual influence between intergenerational relations and ICT use is still scant in Asian countries, including Singapore.

Mobile media can be primarily defined as “a personal, interactive, internet-enabled, and user-controlled portable platform” where inter-connected users can exchange and share both personal and non-personal information (Wei, 2013). During the earlier 20th century, the vast majority of elderly people were in regular face-to-face contact with

their children (Mancini & Blieszner, 1989). In the twenty-first century, mobile media appeared, which marked the evolution of mobile communication (Watkins, Hjorth, & Koskinen, 2012). Mobile media, and especially mobile phones and smartphones have taken an increasingly large position in the technoscape over the last decades.

Mobile media can transform the pattern of communication. Compared with the traditional communication forms, e.g., face-to-face conversation or letters, the most typical characteristic of mobile media is that it puts users at the interactive and participative centre, especially because this technology offers the experience of presence (Richardson & Wilken, 2012). Meanwhile, mobile media have long been associated with emotion, especially mobile intimacy through mobile media practices (Hjorth & Lim, 2012; Lasén, 2004). ICT users also experience different emotions and feelings when using or not using different device (Vincent, Grant, & Fortunati, 2009). It has been found that in the case of intergenerational communication, both elderly people and their adult-age children can experience co-presence through using mobile media (Wei, 2013). In turn, this can play an important role in strengthening the level of solidarity between generations, especially in the family context such as providing a more convenient way to enhance interaction or communication between family members.

Within mobile media, mobile media applications, such as WhatsApp, WeChat, and Line, are used worldwide in recent including their use in intergenerational communication (Cui, 2016). These applications have further enlarged communicative possibilities, strengthened family ties, and created memories between family members.

Some scholars have also argued that these communication channels might also have some potential negative results such as the loss of opportunities for family togetherness (Abrantes, Amaro, & Baldi, 2017; Yu et al., 2017).

In Singapore, a city state, although the living distance between elderly people and their adult children is usually not very far, intergenerational communication patterns have gradually changed in the new century. WhatsApp, one of the most popular messaging services in Singapore, has experienced a growth among users. Compared with Facebook Messenger, WeChat, and Line, WhatsApp retains its leading position in Singapore with more than 4 million users (Fairuze, S, 2020), which makes it necessary to explore the role of WhatsApp in elderly people's perceptions of intergenerational communication.

In this study, I have adopted the framework of intergenerational solidarity to guide the analysis for two main reasons. First, according to Mancini and Blieszner (1989), the solidarity model has a long history of being tested in the field of family integration. From the micro perspective, this theory can be adopted to explore intergenerational communication. Second, in my research, I have contextualized intergenerational relations, especially intergenerational communication, in the mobile media age. Some dimensions of the solidarity model, such as structural solidarity and affectual solidarity, are sufficiently broad to include. Meanwhile, the unique experience provided by mobile media in intergenerational communication, e.g., intimacy and emotional support, can be analyzed from a new perspective.

There are also some theoretical gaps between existing literature and research

questions. First, most of the studies focus more on the technical side rather than the process of interaction. Although some studies have already extended to how technology influences intergenerational relations and then plays a role in aging, few have specifically narrowed down to the field of communication, which is a key part of intergenerational relations. A majority of them choose to sketch out the intergenerational communication under the background of intergenerational relations. Second, current studies have not paid much attention to different cultural contexts, which should be further explored in the future.

Research Method

Several studies have explored mobile media technology usage in families by focusing on the characteristics of individual family members. The individual focus is because intra-family relationships are typically hard to quantify (Eynon & Helsper, 2015). For example, there are several quantitative studies that demonstrate the concern over decreased time spent with the family because of the privatized use of new media technologies (Livingstone, 2009; Williams, 1997). From the qualitative perspective, one empirical study on intergenerational solidarity and ICT usage adopts both interview and observational methods, through which rich data has been collected (Taipale et al., 2017). Also the qualitative work by Cui (Cui, 2016) focuses on multimedia mobile instant messaging in close relationship management.

Therefore, in this study, a qualitative approach, was used to better illuminate the interaction between WhatsApp use and intergenerational relations. Individual interviews were an appropriate approach since they allowed participants to share their opinions without bias from other participants. Given the outbreak of COVID-19 during the data collection period, these interviews were carried out via WhatsApp voice calls. Originally, it was anticipated that there would also be field observations in the respondent's natural settings. However, these became impossible due to the COVID-19 situation. Indeed, most of the field observation sites for my research such as the Universities of the Third Age, and community events for the elderly were closed to ensure safety. Under such circumstances, this study focused more on online interviews.

Participants. Elderly people, the focus of this study, can be categorized into

different groups. For example, according to their living conditions, they can be mainly divided into two types, those living alone and those living with others (Jennifer Yeh & Lo, 2004). The latter includes those living in a nursing home, with their spouses, children, relatives, friends and so on.

Another dimension is the degree to which people are integrated into society. If we pay attention to their daily lives, some elderly people engage in community activities or, for example keep studying at the University of the Third Age. These people share relatively more social connections when compared to others who prefer to stay at home and are more socially isolated (Patterson et al., 2016).

The participants for this study needed to satisfy all the three of the following requirements: aged 60 and above; living in Singapore; using WhatsApp to communicate with their adult-age children.

In total, I interviewed 14 elderly people in this study, who are all Singaporean Chinese background. I started by recruiting 8 elderly people aged above 60 years old (3 males and 5 females), who were volunteers in RSVP Singapore (an organization of senior volunteers with over 1,000 members and 1,500 ad-hoc volunteers). Except for one participant who preferred to speak Chinese during the interview, all other interviews were conducted in English. After the first phase of interviewing, I used the method of snowball sampling and solicited suggestions for other interviewees who were perhaps more difficulty to reach, e.g., elderly people living alone and those living in nursing homes. Using this method, I was able to recruit 6 interviewees aged above 60 years old (2 males and 4 females). All the interviews in the second phase were all in

English.

Procedure. Before each interview, consent forms were given to participants to fulfill the ethics requirement from the Internal Review Board. The objective, the benefit, and the voluntary participation of this study were also reemphasized at the beginning. Each interview lasted at from 30 minutes to an hour. Due to the lack of funding resources, monetary compensation was not given to the interviewees. However, there was an offer to help with solving technical problems related to WhatsApp usage and mobile phone usage. Meanwhile, although it is clear that the offer of an incentive could have encouraged people to be interviewed. The experience in recruiting people, however, showed that the informants were willing to participate. Indeed, of all the people contacted only one did not want to participate.

Data analysis. All the data collected from online interviews was coded line-by-line with the support of Microsoft Word. The material was analysed using grounded theory (Strauss & Corbin, 1994). Specifically, I have analysed the data as follows: reading and re-reading the material so as to become familiar with the concepts; identifying repeating themes; coding the emerging themes with keywords; developing the codes into concepts; and categorizing the concepts. During the process of data analysis, I examined different dimensions of intergenerational solidarity theory in the context of WhatsApp usage in aging Singapore. While reporting results, pseudonyms were used to guarantee the anonymity of the participants.

Findings

“Mainly WhatsApp”

The online interviews showed that the use of WhatsApp played the role of both bridging the distances and facilitating communication between generations to some extent in aging Singapore, which partly answered research question 1 in this study. All of the interviewees had used WhatsApp for at least 5 years and most of them said that they need to check their WhatsApp at least 10 times a day. This suggests that the platform is a part of the informant's associational solidarity. Gary (80 years old) explained as follows: “I use it very frequently because I have a lot of chat groups lah. We have lots of information exchange”. Indeed, one interviewee even noted that immediately previous to the interview he had been using WhatsApp to chat with his children (Jack, 73 years old). Here, the information also responded to how associational solidarity generated through WhatsApp usage in research question 3.

Unlike face-to-face talking and phone calls, WhatsApp is a multidimensional communication tool. There are various functions of WhatsApp, including text messages, voice messages, photos, voice calls, video calls, and news forwarding, which can satisfy people's different needs. This functionality means that some interviewees regard WhatsApp as their first choice when there is a need to communicate with their children. Based on different functions, the following parts showed why some elderly people prefer to use WhatsApp if they want to tell their children something.

The functions of messages, including text messages and voice messages, are often used, mainly because they are able to provide convenience when elderly people and

their adult children are unavailable at the same time. As Betty (65 years old) said, “It is convenient as it is not easy for us to be available at the same time”. Many interviewees also mentioned that they would consider their children’s timetable before contacting them. From Candy (73 years old), I knew that her son has a lot of meetings and she tries to not interpret him. “So when that happens or whatever, I will WhatsApp him”. WhatsApp can also deliver messages successfully across time and space and then create a sense of presence. According to Felisa (73 years old), “because sometimes they (adult children) are very busy and they get no time to talk to you. I just WhatsApp them. Maybe they are cooking, doing housework”. Gary (80 years old) also agreed with it, “it is the easiest way because my daughter is working and will be disturbed by a phone call. I use WhatsApp more”. For Candy (73 years old), WhatsApp has acted the role of a memo as well. “Sometimes I just WhatsApp him to let him know something before I forget”.

The functions of calling, including voice calls and video calls, are also popular among some other interviewees who pay more attention to personal feelings and prefer to avoid misunderstanding that can arise in text messages. Ivan (61 years old) mentioned that “in WhatsApp, when you send a message, it may not be the same as it is. But when you talk on the phone, it is different. A statement may be misconstrued”. Below are some more examples showing why some interviewees prefer voice calls and video calls.

“I prefer talking face-to-face or even talking on the phone. For me, messaging on WhatsApp is not so personal. Sometimes I will phone call or maybe video call so

I can see them. In WhatsApp you only see the message it is not personal. I try to avoid it. I do not use WhatsApp (text messages) so often but sometimes I use video call.” (Dannie, 70 years old)

“When you text, you do not see a person’s expression. Whatever feelings the person shows you cannot see. But if you speak face-to-face and talk to each other, any expression will be shown. Sometimes you see the person, oh she is agreeable, he is happy. You can see on the face straight away.” (Lisa, 76 years old)

“I prefer to talk about my personal experience with my son directly. I think WhatsApp is not able to express personal things. I think talking face-to-face is more dynamic. You can convey the feeling better.” (Maggie, 73 years old)

The function of photos is often used together with the functions of messages (text messages and voice messages), especially those interviewees who already have grandchildren and they often further share grandchildren’s photos through WhatsApp. Meanwhile, the function of news forwarding happens more in WhatsApp group chat, including both family group chats which would be mentioned in the next section, and those interest group chats.

A Chat Group: Why or Why Not

In order to investigate the issue of emotional bonding as noted in research question 2, this dimension was examined in the data on participants’ usage of WhatsApp and WhatsApp chat groups. Many interviewees have more than one child and most of them have a WhatsApp chat group for family members. In these chat groups, there are usually around 6 to 8 people, including children-in-law.

All the interviewees shared how his or her family chat group was started and they all agreed with the main purpose of achieving easier and better communication and creating more communication opportunities when creating a family group chat on WhatsApp, saturation can be seen here. For example, Gary (80 years old) pointed out that: “It was started by my son-in-law. When we communicate with each other, we find it is better to start a chat group”. Jack (73 years old) also shared that he “group them together” for better and more convenient communication with each other. There are 10 people in total in this family group, including 2 sons, 2 daughters-in-law, 5 grandchildren and himself.

After the chat groups are created, situations in different family chat groups are of difference. For some, “5 people are all very active in forwarding or other things” (Ivan, 61 years old). For some others, this group is mainly for notification purposes. Felisa (73 years old) recalled that: “When they want to visit me, they WhatsApp me lah”. Besides these, different people usually behave differently in one group. “My daughter is more active. She will say okay, yeah. My son seldom replies but I know he has read because of the blue ticks” (Dannie, 70 years old). However, the use of WhatsApp chat groups generally helps elderly people create some connections with their adult age children more or less. The function of WhatsApp chat groups also strengthens the importance of WhatsApp in the communication between elderly people and their adult children.

Specifically, the advantages of the WhatsApp family chat group were highlighted during the interviews. Convenience and time saving were two keywords that had been

repeated several times. More specifically, Ivan (61 years old) explained that in this group, he felt a sense of keeping connecting with people. Also, he knew that family members were always around. In addition, there is an efficiency associated with WhatsApp in family chat groups. Specifically, respondents mentioned “one-to-many” messaging. Edmon (73 years old) argued that “if you want to say something, everybody knows about it. You do not have to repeat to six people”. Nancy (72 years old) emphasized the result of “telling them at the same time”. Jack (73 years old) also gave a more detailed example of family gathering, “I just put the message in the group chat and everybody will reply to what time they will be available. It is convenient to make appointments”. Thus, WhatsApp’s convenience and the ease of use facilitate the maintenance of emotional connections between within these groups.

Advantages sometimes can also become disadvantages. According to many interviewees, the WhatsApp family chat group is not suitable if they want to communicate individually sometimes because it is not necessarily private. “Sometimes I just want to communicate individually then I do not go to the family chat group. I communicate with them directly...because (otherwise) it will affect the whole group”. Alice (84 years old) mentioned. She also complained that sometimes gossips between individuals might be sent to the whole group mistakenly and embarrassment would be caused.

Due to the fact that group chat is not private, people usually cannot expect an immediate reply. As Mike (77 years old) said, “Sometimes they do not reply in the group. Maybe some urgent affairs like hospital affairs, we need an immediate reply. If

they do not, I just call them”. Although the disadvantages of WhatsApp chat groups exist, almost all the interviewees still have at least one WhatsApp family chat group with the intention of maintaining the connections with other family members in the same chat room.

In summary, with the help of various functions of WhatsApp and the establishment of WhatsApp chat group, its wider usage in Singapore has provided elderly people more opportunities to be connected closely with their children. Additionally, WhatsApp is free to use, which also encourages family members to use more to connect each other. WhatsApp has contributed to maintain the existing relationship between generations, which leads to a higher level of associational solidarity among elderly people and their children in Singapore. People do not need to worry about losing contact with someone suddenly as WhatsApp can always provide a sense of presence and also a sense of being connected. This unique characteristic makes elderly people reliant on WhatsApp usage.

“Emotional Sharing”

The material from the interviews showed that the using WhatsApp is able to strengthen emotional bonding. This was done through the exchange of sentiments such as warmth, understanding or even complaints. 80% of the interviewees are willing to individually share feelings or emotions through WhatsApp with their children. For example, Candy (73 years old) said, “Something I enjoy or something I dislike. I will share with them frankly”. Dannie (70 years old) also chose to “go individually to my daughter rather than in the chat groups”.

However, there were a small number of interviewees who only exchanged daily

information with their children. Betty (65 years old) tried to avoid sharing emotions or bothering her children as they might be troublesome. Gary (80 years old) also had no emotional sharing with his daughter, “usually it is when my daughter wants to buy something or she wants to seek for my opinions on buying something. That is all”.

During the process of building emotional bonding, good feelings and emotions are more shared than those bad ones through WhatsApp by elderly people in Singapore. According to the respondents, this is because that the elderly people do not want to bother their children or make them feel worried. For example, Alice (84 years old) only shared happy things because those sad or upset things would bother her children with problems. “I am sure they have their own problems, and you know they have to work and earn their living. They will also not share their ill feelings with me”. The situation of Jack (73 years old) was similar, “Only with my son. We have close contact. When I am happy, like I join some parties or I prepare a special gift for somebody, I will share it with them. Not happy I will also share with them sometimes. Sometimes, when you have some friends say something I do not like, just a few words lah, say a little lah. Do not want to bother them or let the children worry so much. More willing to share happiness”.

During the circuit breaker period in Singapore because of COVID-19, the emotional sharing function of WhatsApp became more obvious. For example, Edmon (73 years old) mentioned that: “(During the circuit breaker), when I get bored, and then WhatsApp my daughter what should I do and let her give me advice. She will respond”. Although more people prefer to see each other face-to-face, WhatsApp could partly

satisfy their needs in this special time.

“Face-to-face is much better. They can see how you feel. Text is even more delayed.”

(Edmon, 73 years old)

“WhatsApp video can be simply clearer than WhatsApp texts. Face-to-face is better for me.” (Ivan, 61 years old)

“I mean personally, sometimes it is good to see personally and have some personal touch. We can sit down and look at the person. It is good to make the video call because we can still see the person.” (Lisa, 76 years old)

From the example of regular sharing of emotions, especially positive ones, to more frequent emotional exchange during the lock-down period associated with Covid-19, WhatsApp was a tool used for intergenerational emotional sharing. This resonates with the idea of affectual solidarity that was posited in research question 3.

“Do Not WhatsApp Sensitive Things”

This section was based on the data related to some consensus on WhatsApp usage between generations in Singapore, which partly replied one of the dimensions (consensual solidarity) in research question 3. According to different elderly people in Singapore, although they all believed the value of WhatsApp in their everyday lives and the role of indispensable connecting tool between family members, they never saw WhatsApp as a way to discuss sensitive information, where I can see a saturation related to consensual solidarity.

When coming to privacy issues and data security related to WhatsApp usage, the informants all agree that this was not a good thing to do. Most of the interviewees and

their children noted that there was a need to observe a basic sense of privacy when using WhatsApp. Betty (65 years old) suggested that personal things should not be sent casually. Felisa (73 years old) pointed out that they would not WhatsApp sensitive things and would think carefully before using WhatsApp for this purpose. “[If] something [is] private or confidential, we do not WhatsApp. Also, sensitive issues, we do not WhatsApp”. Dannie (70 years old) also mentioned that they tried not to share private things like bank, PIN number. “When related to this, we will talk over voice, not over this [WhatsApp].”

One interviewee had greater concern for privacy than her others. Edmon (73 years old) noted, “Sometimes my children will send me their identity number, I am also very fearful that it will be leaked out. For me, when you send some certain personal things to your family members in WhatsApp, is it safe? That is a big question. Most people are so lazy about these numbers and sometimes they will say just text me lah. It is convenient for them”. Although sometimes she does not know her children’s feelings on this issue, she usually deletes sensitive numbers like passport numbers.

Generally, there were a lot of reminders of being careful about sensitive or private messages every day among elderly people and their children in Singapore. For Alice (84 years old), if she thinks that the messages contain sensitive information, she will warn her children. Occasionally, if her children know anything about harmful messages, they also remind Alice. Jack (73 years old) was a volunteer as a handphone trainer. According to him, whenever he had some information about how the techniques were used to steal sensitive information on WhatsApp, he would immediately share with his

children. These frequent warnings between the generations address research question 1 in that they suggest that the communication channel carries with it some threats to private information.

Based on the comments of the interviewees, somewhat unexpectedly, the elderly people in Singapore were sometimes more vigilant than their children. Although none of the interviewees had the experience of being deceived, most of them admitted that they were afraid of losing money by mistakenly clicking a sensitive link. Meanwhile, they reported that their children were not as concerned about these issues. Helen (64 years old) shared her interaction with her son during the interview. “I think his education is higher than me and I think he should know. In fact, I educate him. I mean he roughly knows but there are some certain things he does not know [about these electronic swindles] lah”.

The fact that elderly people and their children in Singapore were vigilant on each other's behalf can be seen as a way of delivering care, which is an important contribution to consensual solidarity. This partly responds to research question 3 of this study.

How Elderly People Learn WhatsApp Usage

WhatsApp was released on 3 May, 2009, which was a novel tool at that time, especially for most of the elderly people. However, somewhat surprisingly, many of the interviewees said that they had learned of and explored the general usage of WhatsApp by themselves. For example, Candy (73 years old) said, “there are not many issues. I think WhatsApp is quite user-friendly to me so I do it quite easily. In the past time, I

did not use it quite often but now I have more time and I use it more”. Alice (84 years old) said that she had learned about the app by herself and had gotten help from her children sometimes. Jack (73 years old) also learned some new features via Google, such as “doing the color drawing”.

There are some others who learned how to use WhatsApp from the past or current working experiences. For example, Felisa (73 years old) worked as a nurse in a hospital. She had learned about WhatsApp while working there since there were a lot of notifications on WhatsApp. Ken (61 years old), who retired 5 years ago but now is still volunteering, also mentioned that: “I used it during my days in the office. For certain functions, I may not know how to use, like a screenshot or how to send videos. Then can ask younger colleagues to teach us.”

When learning about the detailed functions of WhatsApp, elderly people in Singapore prefer to seek for their children or grandchildren’s help as they feel that the younger generation is more technically educated. Alice’s (84 years old) children would tell her where to click she had a problem with sending photos. Mike (77 years old) also learned from his children about how to create different groups like group A, group B in order to send messages to just a few of people instead of everyone. The interviewees said that sometimes their children were busy with their work and thus, they needed to be patient. The interviewees said that they need to judge whether it was an urgent issue. Lisa (76 years old) pointed out that not every young person had the patience to teach the seniors. As a result, their grandchildren are more often asked when technical issues of WhatsApp appear. Lisa said that she normally asked her grandchildren. She said that

“my children are too busy lah. I prefer the grandchildren-approach lah. It is better because they are also from school learning”.

WhatsApp as Channel for Help Exchange

Besides the usage of WhatsApp itself, WhatsApp was also a way that the informants requested and also provided other types of assistance in dealing with different everyday problems in spite of long distances. Responding to one of the dimensions of research question 3, WhatsApp was seen as a channel through which the elderly interviewees alert one another when they need help.

For those interviewees whose children lived overseas, WhatsApp has become an essential tool when seeking for functional help. Alice (84 years old) said that she got help from her daughter-in-law who is now a qualified nurse living in London, “for my health problems, sometimes I WhatsApp her and ask her for some advice. Also, at night, I get up many times for the toilet and I ask her for help. Sometimes, [there are] certain medicine[s] I do not quite understand so I give them the name of the medicine and ask them to give me some more details about this”.

For those who do not live with their children, the video function of WhatsApp provided real-time communication. “It is useful to use video because we need to see and chat with each other”, Jack (73 years old) said. Dannie (70 years old) also noted that he could easily receive help via video calls, “I will video whatever is happening, sometimes the tap is leaking, the door lock is no good, the TV, or sometimes when the electricity trip, the electricity trip, I will go to video to show them and they will tell me what to do and which button to press. Because when I tell them about this, this and this,

they do not know what I am talking about. This pin, this one is down, this one is up. They say take a video, go on video, and they can see in real-time”.

To conclude, the interviewees said that WhatsApp is a channel through which the elderly and their adult children give and receive help. This included functional types of help in many situations. These comments address research question 3. Namely functional solidarity has been strengthened during the frequent exchange of help in Singaporean families.

“Only Reply During Recess Time”

It is difficult to say that there are already existing family norms related to WhatsApp usage among elderly people and their children in Singapore, which is more related to behavioral aspects instead of shared values or beliefs. However, when referring to specific habits, there is some emerging agreement regarding use.

Unlike voice telephony, the respondents noted that they were not in the habit of contacting their children by WhatsApp at a specific time. Rather, as described by Licoppe and his notion of connected presence, the interviewees just send messages whenever they think of something. Also, most of them do not have daily conversations via WhatsApp. Rather they call if there is something urgent. “Whenever I think of something, I will just WhatsApp”, Dannie (70 years old) said. Felisa (73 years old) also mentioned that she would not contact her children every day, “unless it is a certain thing, then we just WhatsApp lah”.

The majority of the interviewees also consider whether their children are convenient before sending messages or making calls via WhatsApp. Lisa (76 years old)

normally did not call her children as they were busy, “I just message them if they are available. They just read the message. Anytime in case, I forget”.

When coming to the time needed for the reply, there are also some regular habits of their WhatsApp usage. From the children’s side, they often reply very quickly except for when they are working or in a meeting. For elderly people, especially for those who have retired, they often answer immediately unless they are, for example, outside with no internet coverage or doing some household chores like cooking in the kitchen. According to Dannie (70 years old), she usually replies immediately because she is retired and has nothing to do. “I am always on the phone, holding the phone, checking messages, watching shows”. She noted that it usually takes her children 10 to 30 mins to answer. Mike (77 years old) also said that “In most cases, pretty urgent things, they will answer quickly. My son is teaching he cannot answer straight away, can only reply during the recess time”. These kinds of relatively fixed habits with consciousness like considering whether their children are available before contacting them are able to contribute gradually to form regular norms between generations.

When considering the form of writing, compared with their adult children, elderly people noted that they use fewer abbreviations and emojis but use more punctuations when sending text messages on WhatsApp. The material shows however that abbreviations, they are gradually being adopted accepted by elderly people although they say that they cannot always understand their meaning. However, some interviewees said that if both interlocutors can understand the symbol, they will use it with their children as they are convenient and efficient. Gary (80 years old) shared his

experience during the interview, “sometimes we use abbreviations. Our messages are quite short. Like happy Friday (HF), we do not use the full form, just ensuring the other side can understand is okay”. For Ken (61 years old) however, he preferred to type longer paragraphs without abbreviations. Before sending it, he would check the grammar and spelling. When he could not understand the meaning of abbreviation, he would ask his children for help, “sometimes I cannot understand IDK (I do not know)”.

The interviewees noted that they sometimes collect different emojis and stickers for the sake of convenience. For example, if their children sent them some stickers when chatting in WhatsApp or if they saw some stickers in WhatsApp chat groups, they would save and add these stickers to their own WhatsApp sticker libraries. Edmon (73 years old) preferred emojis as she could choose directly, “like ‘ok’, now I just use a finger to show ok”. Jack (73 years old) also mentioned sometimes replying by using only emojis when he did not want to compose a textual reply. He felt that this was better than no reply.

As noted, the young people tend to be more casual with the use of punctuation. Candy (73 years old) mentioned that: “I do, usually I put [in] the punctuation, usually I just shorten the spelling. My son is not very particular lah (about punctuation). He does not quite care about capital letters (either)”.

It is obvious from the material that both the elderly and their children are comfortable to use WhatsApp in their ongoing interaction. For example, the elderly try to not disturb their adult children who might be working. For their part, the children try to respond to parents as soon as possible. This illuminates the idea of mutual respect

and care that is common among of the members of Asian families. WhatsApp has gained a position in this context. There has been the development of a type of normative solidarity communicated via the platform between the different family members albeit in different ways in different families.

Two Sides of WhatsApp Usage

In addition to the elements discussed heretofore, the informants noted that the usage of WhatsApp in intergenerational communication has also created other opportunities for interaction and also some barriers, which could lead to the discussion about the issue of structural solidarity outlined in research question 3 and also could be an extended response to research question 1.

The interview material shows that WhatsApp has provided elderly people and their children the opportunity to communicate more easily. It is a channel through which they can flexibly exchange daily information, to achieve emotional caring. This also means that they do not need to be co-located, or even the same time zone, unlike that situation with traditional face-to-face interaction. For Alice (84 years old), most of her children work overseas. WhatsApp is the main channel through which they communicate., She notes that they use it not only for everyday problems, e.g., like suggestions on health issues, but also to obtain emotional satisfaction. At a more local level, interviewees also mentioned that during the COVID-19 “circuit breaker” period in Singapore, their communication with children also relied on WhatsApp as the government encouraged them to stay at home unless there was an urgent need.

In addition to these positive dimensions, the elderly interviewees also noted some

barriers to use. For example, Edmon (73 years old) mentioned that the text on the small screen was problematic. He said that, because of his eyesight, “I increase the font (from small size to middle size)”. Other health-related problem included the agility of elderly’s fingers. Yet other interviewees said that they feared system upgrades and the inability to have adequate data planning or Wi-Fi. These factors influenced their usage of WhatsApp. These barriers augur against the generally positive sense of WhatsApp in the communication between elderly people and their adult children in Singapore.

Discussion and Conclusion

In this thesis, I explored the usage of WhatsApp in intergenerational communication in aging Singapore. Regarding the first research question of how elderly people in Singapore perceive the role of WhatsApp in the communication with their adult children, many interviewees see its importance and regard it as an important communication link with their children. The material shows that, in addition to being a communication tool, WhatsApp also plays other roles in the lives of the elderly and their adult children. This includes being a way to note down memos, being a channel for emotional sharing, being the safety reminder, and being a way to exchanging daily help. In this study, I have found the extreme importance of WhatsApp for elderly people in Singapore. Meanwhile, one study explored group-based communication in Turkey. This research included 633 participants also described that 83.3% of them regard WhatsApp as the most frequently used communication tool and 48.5% of them agree with the statement that “WhatsApp is indispensable” (Koçak & Vergiveren, 2019).

To further develop the discussion of the elderly’s perception of WhatsApp, the interview material shows that they discussed two main characteristics of WhatsApp. The first one that the interviewees mentioned is its convenience. Candy (73 years old) mentioned that messages could be passed very quickly. “It is very quickly done whatever it is. Also, it is very informal. If I want to send an email, I need to turn on the computer and it takes time. In WhatsApp, you just send messages to them and you do not need to wait for them”. Some interviewees had strong desires for expressions in everyday life. In some case, they presented what may seem to be dramatic term of

“dependence”, especially for those retired elderly people, who rely more on this platform for emotion and information exchange by checking their WhatsApp every day. The extreme point of this dependence can be addiction if people rely too much on WhatsApp, which also leads to some disadvantages. Edmon (73 years old) thought WhatsApp took away face time to some extent at the same time. “For example, if you have dinner together, they will focus on their phone rather than talking as before. Everybody will be on their phone, down, down”.

Second, WhatsApp was seen as being flexibility. Unlike talking face-to-face, the interviewees said that using WhatsApp means that they did not need to be in the same place, or even the same time zone, as their children. This is seen in the comments of Alice (84 years old) who said, “I can use it whenever I like. I mean if there is something urgent and I know they are not sleeping, then I can reply straightly. If it is not something urgent, just send the message and leave it to them to reply only when they can”. Ken (61 years old) also mentioned that: “I find it very useful. Like if a person is driving and is not able to answer your call. Then your messages can easily get across. They can take time to read. And all the messages are stored”.

Regarding the second research question of how elderly people’s usage of WhatsApp eventually leads to emotional bonding between generations, it can be concluded that the usage of WhatsApp by elderly people and their children in Singapore has created more opportunities for intergenerational emotional bonding. The material shows that many people were willing to share their feelings and emotions, especially positive emotions with their families. For example, the respondents noted that during

the special time associated with the COVID-19 circuit breaker WhatsApp helped proved itself to be a convenient way for the elderly to give and receive support. They noted that the traditional voice-based telephone did not have various functions, e.g., free voice calls, video calls, photo sharing, and so on. Thus, it was not seen as a communication channel through which they could develop and maintain emotional bonds.

The third research question asked how elderly people's WhatsApp usage was connected with the different dimensions of intergenerational solidarity. The material shows that that WhatsApp use indeed contributes, in a general way, to the different dimensions of intergenerational solidarity in Singapore.

Among the six different dimensions of intergenerational solidarity noted above, the material indicates that the use of WhatsApp among elderly people contributes to the dimensions of associational, affectual, and functional solidarity. Associational solidarity can be seen in the increased frequency of communication via WhatsApp. In the existing data, association solidarity has been strengthened due to the frequent interactions. For example, Gary (80 years old) noted that he would chat in the family chat group for anything in a daily basis. "I use it very frequently because I have a lot of chat groups lah. We have lots of information exchange" (p20). Betty (65 years old) also mentioned that she would check WhatsApp messages from family members for more than 10 times a day and she sometimes even tried to check less frequently because of busy schedule. Not only Gary and Betty, but also other participants recalled the high frequency of using WhatsApp every day to communicate with their adult age children.

The material shows that affectual solidarity is also worked out via WhatsApp. That is there is the strengthening of emotional feelings. For example, Edmon (73 years old) mentioned her interactions with her daughter individually via WhatsApp when sharing some emotional feelings, “(During the circuit breaker), when I get bored, and then WhatsApp my daughter what should I do and let her give me advice. She will respond” (p27), which illustrates how WhatsApp usage strengthens the affectual solidarity in intergenerational communication. The situation is similar for Candy (73 years old), who is always willing to share her emotions through WhatsApp, “Something I enjoy or something I dislike. I will share with them frankly”. She also gradually feel the closeness with her children after sharing emotional feelings.

Following from the interviews, the interaction via WhatsApp also contributed to strengthened functional solidarity. This is seen in the willingness to exchange of help in everyday life via WhatsApp among interviewees’ response. For example, Alice (84 years old) often came to her daughter-in-law in London for help via WhatsApp when coming to some medical problems. She notes, “Sometimes, [there are] certain medicine[s] I do not quite understand so I give them the name of the medicine and ask them to give me some more details about this” (p37). The platform has also gradually become one of Alice’s daily habits. Dannie (70 years old) also mentioned that she would use the WhatsApp video function to contact with her children if there is something wrong with the facilities in her house, like the water tap or the door lock. Through WhatsApp video, “they can see on real time”. These daily help exchanges through WhatsApp platform make elderly people and their children feel a stronger functional

solidarity.

Two other dimensions, namely consensual and normative solidarity are still in the process of development. This nascent use can be seen in the comments of Felisa (73 years old) and her family. They have gradually reached the consensus of being concerned about sensitive messages in WhatsApp. She also recalls that there are some familial norms of using WhatsApp like trying to contact each other in recess time, using convenient writing styles, and so on.

As for the last dimension called structural solidarity, both opportunities and barriers exist at the same time. For Gary (80 years old), WhatsApp is “one of the best things since I have used iPhone” but sometimes the agility of his fingers can still cause some trouble when using it. Also, as mentioned above, Edmon (73 years old) thought WhatsApp took away face time to some extent, “For example, if you have dinner together, they will focus on their phone rather than talking as before. Everybody will be on their phone, down, down”. It is also the common phenomenon in other families. Therefore, we can conclude that the usage of WhatsApp among elderly people and their children in Singapore can not only contribute to the growth of structural solidarity, but also can slow down the formation of structural solidarity sometimes, depending on the situations. How to avoid the disadvantages of those barriers brought by WhatsApp is worthy exploring in the further research.

Looking at the role of interpersonal communication more broadly, according to the interviewees, most feel that face-to-face communication is a more direct than communication via through WhatsApp. Indeed, they prefer face-to-face talking if they

can choose because they feel that they can better observe what they call “the real feelings” of their interlocutor. “When you text, you do not see person’s expression. Whatever feelings the person shows you cannot see. If you speak face-to-face and talk to each other, any expression will be shown. Sometimes you see the person, [you know whether] she is agreeable [or] she is happy. You can see on the face straightaway”, Lisa (76 years old) explained. Baring co-located interaction, several different WhatsApp functions, e.g., video calls and photo sharing, etc. are seen as reasonable alternatives although they felt that 100% realism could not be achieved through WhatsApp. Meanwhile, compared with face-to-face talking, other functions of WhatsApp including text messages, voice messages, photos, and even news forwarding own the function of information storage, which can make information traceable. When thinking of the broader view of interpersonal communication, the material from this study suggests that the interviewees most enjoy co-located interaction with their adult children. They felt that this could provide the best sense of realism and close interaction. Although mobile media technologies such as WhatsApp in this study has already partly narrowed the gap between real and the virtual world, it is clear that it has not completely satisfied the needs of the elderly interviewees.

Regarding the existing gaps in current literature review, this study explored how WhatsApp contributes to intergenerational communication in Singaporean families and how elderly people in Singapore interacted with their adult children through WhatsApp. Meanwhile, this study also extended the research on mobile media technology and intergenerational communication in Asian area, especially in aging Singapore.

The material in the study suggests some directions for research in the future. First, as mentioned, both advantages and disadvantages exist in the intergenerational use of WhatsApp. Although it is difficult to remove those disadvantages, it is possible to try to study how it might be possible to reduce their impact. Second, WhatsApp is a new form of social media communication, which is strongly supported by internet technology. Having discussed the role of WhatsApp in elderly people's minds in Singapore, it is also necessary to extend this to other forms of internet communication. Third, the current research focuses on Singapore. It would be useful to compare these results with other countries and cultures. Comparative studies could provide a more all-round perspective when making suggestions to the current issues.

There are also some limitations of this study, especially for the method section. Firstly, Due to the situation of COVID-19 pandemic in Singapore and around the world, this study only conducted interviews with elderly people and their children in Singapore. Secondly, the participants in the current study were all Singaporean Chinese, who cannot represent the whole profile of the elderly in Singapore. Future studies might benefit from recruiting minority race elderly adults given that their family dynamics may be different, and different dimensions of solidarity may act differently. Thirdly, to ensure everyone's safety in this special time, all interviews were conducted online. It might be better to conduct field observations when exploring some questions like the frequency of their WhatsApp usage and their interactions in WhatsApp. Finally, as barriers for elderly people to use WhatsApp still exist, there is a need to increase elderly people's skills of using mobile media technology. If possible, a WhatsApp workshop

can also be considered in the future in order to learn their media literacy.

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