



Article

The Mediatized Interactions and Social Networks of Empty-Nesters: A China-Based Study

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Abstract: China is a populous country and its growing elderly population is pushing the whole country into the maelstrom of an aging society. The media practices and media interactions of empty-nesters have gradually become a real issue that is affecting the deepening transformation of Chinese society given the dual concerns of aging and mediatization. This study conducted in-depth interviews with 23 empty-nesters, chosen using the snowball sampling method combined with participant observation, to obtain their habits and behaviors related to social media use so to analyze the impact of media interactions on their daily life and social networks from a mediatized perspective. The availability of social media was found to influence their media use habits in four dimensions—technical, emotional, cognitive, and behavioral—in the face of the digital divide, media memory writing, the construction of parasocial relationships, and embodied collaboration. These influences not only shaped and promoted the socialization of empty-nesters on social media networks but also extended to their daily life, as these influences enhanced both their mental and physical quality of life in old age.

Keywords: mediatized interactions; social media; empty-nesters



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1. Introduction

Technology contributes to the development of human society, which is reflected in the relationship between media and people and between media and society. The new media power of multiple technologies has become a part of daily life, and human society has gradually moved closer to mediatization (Hepp et al. 2015). A mediatized life has become an important dimension in this reshaping of society (Kannengießer and McCurdy 2020). Mediatization is the role of a specific medium in the emerging process of social and cultural change (Couldry and Hepp 2013). Exploration of the behavior and habits of new media use, as well as how media has changed household communicative interactions (Hjarvard 2013, p. 30), has recently become a key topic in research in an attempt to analyze the impact of mediatization on human society and to help humans to better adapt and integrate into this new societal form. Given the limitations of social background, media participation, and knowledge level, current studies have tended to focus on youth groups or on mediatization and mediatized survival among younger populations (Khalil 2012; Hauge 2014; González 2018; Lee 2018; Lane et al. 2023). The impact of mediatization on the practices of delivery workers and healthcare workers has also been examined (Cox 2020; Popan 2021; Mieruch and McFarlane 2022). Research has seldom examined the media interaction and practices of older populations, especially empty-nesters, as they face the impact of a mediatized society.

Every technological change means a new integration of social relations for human society, and technology relies on its powerful driving force to promote the process of human civilization from the outside. However, the new technological change brought by the Internet is obviously different from the previous technological revolution, which

penetrates the tension of technology into every aspect of social life, from the production mode to the cognitive mode. The media technology revolution brought by the Internet promotes social progress from the inside of human society in a kind of internalized way. It is worth noting that, in this process of internalization, media technology itself has become a part of human society. Mediatization is a key concept for understanding the relationship between media and the social sphere (Michelsen and Krogh 2016), from state institutions, NGOs, and social groups to individuals, all of whom are included in the digital media landscape. Mediatization focuses on the process and dynamic relationship between media and society. With the advent of the networked society, media technology has become a revolutionary force integrated into the social system (J. B. Thompson 1995), and the social structure has been transformed around the informational logic of the media in all of its aspects, which provides a new paradigm for us to examine media subjectivity.

When technology becomes the universal form of material production, it constrains the whole culture. This pluralistic fusion between media and people, media and technology, and people and technology constitutes the media society under technological empowerment. The production of information brought about by mediatization (Zhen et al. 2015) has changed the traditional mode of information production and consumption, and has extended the communication boundaries of content production to the general public. Digital devices have become an important part of the human body, and their development means the Internet has become deeply embedded in daily life. The deep link between the virtual and the real indicates that media truly is an “extension of the human being.” In this context, empty-nesters are using these media in new ways to access richer information. They are also using this new power to extend their social living space. This kind of media society is both a kind of remodeling in subversion and an integration in extension for the empty-nesters who are on the edge of the society. Empty-nesters are exchanging and sharing their emotions and memories through the cyberspace built by media technology, which is not only a sharing of information and experience, but also a sharing of action, a community of imagination and action that transcends time and space and moves from virtual space to physical space. With the help of media technology, the empty-nesters are weaving their collective memories. The “mediatization” framework gives a new theoretical perspective to explain cultural and social change (Hjarvard 2014). Thinking about the “mediatized” participation of empty-nesters from this perspective has practical significance in analyzing the “mediatized survival” and “mediatized expression” of empty-nesters as a socially vulnerable group. This is of practical significance.

In the traditional concept of Chinese people, “filial piety is the first of all good deeds”, “old age”, “respect for the elderly”, and “care for the elderly” (burial) are the traditional virtues of Chinese people, as well as the moral requirements for children condensed in the social culture. Since the 1980s, China has implemented a family planning policy that encourages “each family to have only one child”. Changes in population policy and social transformation have resulted in a sharp decline in the number of family households in China, and the size of families has become increasingly small. Under the macro-control of the fertility policy, “one-child” has become the identity label of a generation in China’s social development, and families of “three” are becoming more and more common in cities. Decades later, China’s first generation of “one-child” children are gradually entering middle age and growing into the backbone of society. At the same time, the accelerated superposition of industrialization and urbanization and the increased mobility of modern society have led to more and more children leaving their parents and hometowns to continue to expand their own life boundaries, while their parents, who are gradually becoming old, are being left behind at home, and more and more empty-nesting elderly people and elderly people who live alone have begun to appear. The emergence of empty-nesters is the product of a combination of personal, family, and social factors. On the one hand, with the development of society and the change in concepts, the sense of independence in the young has increased, and they are gradually leaving their families of origin. On the other hand, the new generation of elderly people are more educated and

have a certain amount of wealth accumulation, pay more attention to the quality of life and spiritual fulfillment, and also prefer an independent and free living space. According to data from China's National Committee on Aging, the rate of elderly empty-nest families in large- and medium-sized cities in China has now reached 70% (Xinhua Net 2015). The fourth sample survey on the living conditions of urban and rural elderly in China shows that the number of empty-nesters in China has exceeded 100 million (Central People's Government of the People's Republic of China Net 2021). In other words, one out of every three elderly people in China is an empty-nester. In the era of urban families with fewer children, an aging population, and separation of children, empty-nesters have become the basic demographic fact behind the phenomenon of shrinking family size.

According to the 2023 Digital Report published by We Are Social (We Are Social 2023), "there are currently 5.44 billion cell phone users worldwide, equivalent to 68.0% of the total global population. Social media's influence on how we live our lives continues to grow . . . People now spend more than 2½ hours on social media each day—40 min more than watching broadcast and cable TV." The Internet has become deeply integrated into daily life and has profoundly influenced human socialization and participation processes. Meanwhile, according to the United Nations' (2023) The World Social Report 2023, the world's population will reach 8 billion by 15 November 2022, which suggests that population aging is one of the defining global trends of our time, and the number of people aged 80 and older is growing rapidly (United Nations 2023). Actively exploring paths to cope with aging is thus not only a social development issue, but also related to the survival of human society as a whole.

Aging is a demographic challenge that human society has to face during transformation and development. In 1956, the United Nations (1956) published *The Ageing of Populations and Its Economic and Social Implications*, which stated that a country or region is aging when the number of people aged 65 and over exceeds 7% of the total population (United Nations 1956, p. 7). In 1982, the United Nations convened the first World Assembly on Ageing in Vienna and issued a report that stated the following:

A marked increase in the population over the age of 60 years is expected in the future, particularly in the segment of those aged 80 years and over . . . the issue of the aging of populations, with its vast implications both for over-all development at the national level and for the welfare and safety of older individuals, is therefore one which will concern all countries in the relatively near future (United Nations 1982, p. 52).

According to the latest data from China's 7th National Population Census (2020), China's population aged 60 and above was 264.02 million (18.70% of the total population), of which 190.64 million (13.50% of the population) were aged 65 and above, which indicates a further deepening of the country's aging population (National Bureau of Statistics of the People's Republic of China 2021). As the aging of the population increases, complications associated with an aging society (e.g., pressure on public finances, elder care services, and labor shortages) have raised widespread concern. The expansion of the aging population has applied pressure to social transformation, not only in terms of pensions and healthcare, but also for improving quality of life, active social integration, and social care for the elderly. Studies have shown that empty-nesters are at a higher risk for poor mental health than non-empty-nesters (Mendoza and Park 2022). Multiple factors such as family structure, social structure, and living habits mean that empty-nesters have stronger social needs than non-empty-nesters, and they hope to gain companionship and to relieve loneliness and anxiety through social interactions. Empty-nesters thus have more enthusiasm and initiative to participate in mediatized socialization in terms of both time and emotion.

Aging and senior care services are related to the integration of the aging population and society. They are a positive response to the current problems of this social transformation. Scholars' answer to social services for the aging has been to explore community-based aging-in-place programs funded by the Center for Medicare and Medicaid Innovation to address the lag in aging services due to individual capacity and home environment (Szanton et al. 2016). Some scholars have actively explored an elder care service model that combines

family empowerment and mobile health services through regional experiences and case studies (Bahtiar 2018). Others have explored the role that public policy and the private sector can play in meeting the future long-term care and housing needs of middle-income seniors by focusing on the medical care of this population (Pearson et al. 2019).

This raises several important questions. What are older people like in the media? How is the image of older people shaped through the media? These questions are not only related to the social awareness of and concern for the elderly but also reflect the quality of life and social integration of the senior population. How best to support digital media use among this population has been examined by combing through the existing literature on aging research to determine the status of Internet use among older adults and the evolution of that use (Hunsaker and Hargittai 2018). It has been suggested that the social media discourse on aging and older people is discriminatory and, to some extent, reinforces public misperceptions of this group (Makita et al. 2019). It has also been suggested that the use of social media has somewhat fragmented the social participation of the older population; this can lead to diminished memory, which has a negative impact on the daily life of the elderly (Sharifian and Zahodne 2019). One study has focused on how the media influences older adults' attitudes toward vaccines in Singapore's struggle with COVID-19, where older adults who were exposed to formal sources of information trusted the vaccine more and were more willing to be vaccinated, while the reliance on informal sources of information had an important impact on their trust in the vaccine (Tan et al. 2022).

Most studies have tended to focus on the othering perspective to examine aging issues and the social participation of the elderly (Yen et al. 2021; Dong et al. 2014; Wang and Zhou 2020; Krueger et al. 2009). Although this othering perspective can give a clearer picture of the social image of older people, it also deepens the stereotypes about them, which is not conducive to their social integration and does not reflect the real problems they encounter in social participation. Studies have also examined the influence of media practices on older peoples' media use—that is, the influence of media on older people is limited to the virtual space (Kohl et al. 2023; Sharifian et al. 2021; Hofer and Eden 2020). Although a few studies have noted the impact of media use on the daily lives of older adults, this has not been further explored (Wang and Gu 2023). For older people, the starting and ending points of media participation are the real society. Studies have also pointed out that the positive impact of social media on older adults is not only reflected in social participation, but also in other aspects of daily life (Quinn 2018). As a broad social issue, the impact of “mediatization” on older adults should be studied from a “virtual reality” research framework, focusing not only on the shaping role of media awareness and use, but also on the impact of media on daily life. We should also explore the impact of mediatization on the elderly in a two-way comparison process. Interpersonal communication and social interaction are important in the social life of older adults and are key to their social integration. Media participation has, to some extent, broken through the traditional interpersonal communication boundaries of time and space (Cino and Formenti 2021), which also maximizes the need for social interaction among older people, especially for empty-nesters who have more obvious expressive power.

This paper focuses on the empty-nesters, who are regarded as “socially disadvantaged groups”, and considers mediatization as the specific life situation of the empty-nesters, paying attention to the interaction and interconstruction between media technology and daily life, and revealing how the empty-nesters can participate in social communication and social life with the help of media technology. This is a research perspective that has not been noticed in other studies. Therefore, through a qualitative research approach, this paper takes the mediated life of Chinese empty-nesters as the object of study, aiming to take the impact of the mediated interactions of empty-nesters on their social interactions as the entry point, and to raise the following research questions: How do empty-nesters use the media for their socializing activities? What are the effects of media on their daily life and socialization? How do these influences, in turn, affect their mediatized practices?

These research questions help explore and discover the multidimensional structure and related elements of mediatization in the daily lives and social interactions of empty-nesters, expand the relational mechanisms of social media interpersonal interaction research, and deepen the understanding of how social media empowers social resources and constructs and reshapes social relationships.

Currently, there are also contradictory trends in China's mediatized society. On the one hand, the social changes brought about by the powerful force of media technology are forcing the elderly to try to integrate into digital life, while, on the other hand, the accelerated iteration of media technology is not synchronizing its impact within the elderly community. With the current hollowing out of the social structure, social media has increasingly become a necessary means for the empty-nesters to connect with their children and the outside society. However, due to the physical limitations of the elderly, and the lack of timely care and digital feedback from their children, the digital life of the empty-nesters, as a "digitally disadvantaged group", is often neglected, and they are excluded from the mainstream discourse. The study of empty-nesters in China has been a major challenge for the elderly. Research on empty-nesters has also been marginalized as a "gray area" in China. While human society is enjoying the convenience brought about by mediatization, the empty-nesters seem to have become "mediatized outcasts", forgotten in the corners of society. Therefore, this study focuses on the mediatization practices of the empty-nesters, not only to find out more clearly how mediatization has shaped the daily lives of the elderly, but also to draw the attention of society to the empty-nesters and to give them more social care.

2. Materials and Methods

2.1. Participants and Procedure

The collection of first-hand data is the most important and greatest challenge to studying the mediatized participation of empty-nesters. The key to answering this challenge is to listen to them, observe them, and understand them. To obtain the maximum amount of first-hand information about the online interpersonal interactions of empty-nesters through media, one of the researchers sought suitable empty-nesters for the study in their social circle. The initial interviewees were thus the grandparents of this author's friends and classmates. By communicating with these elderly people, we initially entered the group of empty-nesters, and through their recommendations, became acquainted with more empty-nesters. Snowball sampling was used to obtain enough interviewees; the total number of interviewees was set to 23. Participants were clearly informed of the study objectives before being interviewed; they volunteered to become interviewees, were given sufficient information to be informed, and their consent was obtained. The interviewees were all over 60 years of age, which meets the criteria for aging recognized by the United Nations and the international community. Of the 23 interviewees, 12 were female and 11 were male. The interviewees were representative of the different possible occupation types, including workers, teachers, government civil servants, and the unemployed. Statista (2021) "provides statistics on social media use by people in countries around the world; the average global Internet user spent 142 min per day using social media platforms in 2021". Accordingly, we classified the 23 interviewees into heavy, moderate, and light dependents according to their degree of media social dependence using their descriptions of their own media social activities, such the amount of time they spent daily using their cell phones and other media for online social activities. Considering the physical condition and age structure of this group, the criteria for classifying heavy, moderate, and light dependence were using cell phones and other media for online social activities for more than 5 h, 3–5 h, and less than 3 h per day, respectively. To protect the privacy of the participants, their names are presented as numbers (B001–B023; see Table A1).

2.2. Instruments and Data Analysis

Having key information about media use habits and interaction styles is crucial for exploring the impact of mediatization on older adults' social interactions. Existing research

has suggested that media becomes powerful only when it is integrated with practice to unleash its “shaping power” (Hepp 2012). Therefore, this study explored the daily media practices of the elderly to find answers. We chose a mixed design of in-depth interviews and participant observations to start the study from the group of empty-nesters themselves. This approach allowed us to become closer to them and understand them through their daily media practices to determine the problems they face and to provoke their opinions. This mixed design method can yield more objective information on the daily experiences of empty-nesters through media use, while also compensating, to some extent, for the limitations of a single research method in data collection and maximizing the assurance that the data collected can provide solid support for the findings. To collect richer data in a more comprehensive and objective manner, semi-structured in-depth interviews and participant observations were conducted in parallel. Some of the interviewees were recruited in the course of our participant observation when we actively identified empty-nesters who met our research needs; they were interviewed after a month of continuous observation.

The in-depth interviews sought to explore the personal experiences of empty-nesters’ social interactions through the Internet, especially the changes and differences that such social interaction had on their real-life practice styles and social concepts. After obtaining consent, the interviews were recorded; data were collected and organized in a way that ensured the participants’ privacy. Interviews were conducted from May to July 2022, and lasted from 30 to 60 min, which took into account the physical condition of the different interviewees. The study was conducted during a critical phase of the prevention and control of the COVID-19 pandemic, and to prevent and control the spread of the virus, the interviews had to be conducted using a combination of online and offline methods. This did not, however, affect the collection of empirical data for the study, and the interviewees actively cooperated throughout the process. In the interviews, participants shared why, how, and what they use the Internet for, as well as the impacts and changes that have occurred in their daily lives after using the Internet. The questions in the semi-structured in-depth interviews were categorized into the following three main areas: the living conditions and the use of social media and other online apps, how they learned to use social media and other online apps, and the impact and changes in their daily lives after using social media and other apps (see Table A2).

Participant observation had two roles in this study. First, the researcher could enter the social life environment of the research subjects, participate in their activities, and collect a large amount of data through actual personal observation. The social participation scenarios involving the elderly group using media in their daily life are more concentrated, and WeChat and other short video platforms are the social media spaces where the elderly, especially empty-nesters, often browse. These virtual spaces provide an excellent opportunity for a researcher to conduct participatory observation. We established preliminary social relationships with the interviewees through interviews, entered their social life spaces by becoming WeChat friends and following each other on short-video platforms, and observed their patterns of social media use through WeChat group chats, short-video pieces, and other behaviors. We also further participated in their daily social activities, maintained continuous contact, observed their real-life social interactions, and obtained information about their perceptions and practices in moving from online to offline interactions. Second, the observations complemented the in-depth interviews and compensated for the shortcomings of the interviews in the data collection process. The whole participatory observation lasted for 1.5 years, starting in December 2020 and ending in June 2022.

After recording all of the data, we organized and analyzed the text. Subsequently, the raw data were analyzed sentence-by-sentence and classified according to thematic keywords by using Leigh Textual Analysis in order to identify the specific manifestations of empty-nesters’ social practices through the Internet, and to reflect on their impacts on the social relationships and daily lives of the elderly group from the perspective of mediatization. The texts were analyzed according to different themes (Brooks et al. 2015) to identify causal, semantic, similar, structural, and differential relationships between the texts.

Due to the specificity of the textual material, some of the texts were analyzed manually and some of them were analyzed with the help of Nvivo 20 (Qualitative Solutions and Research Pty Ltd., Melbourne, Australia). The whole text analysis work took about 6 months to complete (See Table A3).

3. Results

When mediatization is diffused throughout daily life in a non-linear way, it penetrates all aspects of private, social, political, cultural, and economic life (Schulz 2004), and gradually erodes social time. The media's influence on social life is not only reflected in ways of socializing and social habits but also in social psychology and social understanding. This shaping force is gradually pushing human society into a spatiotemporal order of "mediatized socialization" in an "internally driven" way, and its influence extends beyond the "mediatized environment" to the natural environment (Kannengießer and McCurdy 2020). Studies have found that the mediatized socialization of empty-nesters has become an important channel for them to establish, maintain, and develop social relationships. The media weaves together technology, emotion, cognition, and action in a "social bond" to create a mediatized social network; this can push empty-nesters from the edge of these media to the center. When they choose to indulge in media socialization, this not only alters their vague and isolated state but promotes their social integration and reduces negative emotions due to the lack of companionship and social interaction. This can improve the quality of life among empty-nesters in their old age.

3.1. Mediatized Technology: Experience Sharing and Mutual Interaction Online

The history of human social development and the evolution of media technology have followed each other to some extent. Older people may seem to be caught in the "digital divide" (Soomro et al. 2020), isolated by the new media and "information islands", and forgotten by the "mediatized society". This is only one aspect of the problem. Older people themselves have been trying to bridge this social divide and participate in the mediatized society. We found that, for empty-nesters, socializing through the Internet is a basic social need. Most of them use their cell phones most for daily communication and interaction with family, friends, and relatives, but we received a different answer when we asked about how they started using social media. Although most empty-nesters acquired their first smartphones through their children, their familiarity and proficiency in using social functions were not entirely the result of feedback from their children's media technology but rather through self-learning or media socialization with others.

My kids are also busy and don't have much time to teach you, so I tried to learn . . . now I find the Internet is really convenient and really good. (B002: interview)

My first contact with WeChat was to play with me a few friends say how good it is, 'you try to download this application, we will be able to chat at any time in the network' . . . They said it wasn't hard to learn, so I thought they could play around with it and I was sure I could too. (B023: interview)

During the interviews, we found that empty-nesters not only shared details of their lives and what they had seen and heard through WeChat, but also common software tips and online social experiences. If a person had mastered a certain software skill that others did not have, he or she would become the focus of the social network of other empty-nesters. This sense of accomplishment would then further motivate him or her to share their experience.

I am one of the older people who [started using] WeChat earlier, and I think learning to use cell phones is a good way for us old people to keep up with society. I love to explore and learn these cell phone functions myself, so it's not a big deal for me to learn them, and my friends come to ask me anything they don't know. (B008: interview)

I am generally willing to share useful things in our group of retired teachers, such as pension policy adjustments, how to play the remaining role in old age, and some life

hacks, and most of all, about senior health care. I think the most important thing for our senior group is to be healthy, and everyone is willing to read articles on senior health. (B018: interview)

This process of interaction and sharing experiences is not just a sharing of information but also indicates the flow of social emotions and social capital. It is worth noting that we found this type of experience sharing among the empty-nesters was not limited to the empty-nester group, but extended to other groups of elderly people in a diffuse manner. The content of such experience sharing included, but was not limited to, how to use Internet buzzwords, how to obtain more emoji packs, and how to shoot and make short videos. The elderly people were happy with this virtual social sharing. Superficially, these are technology-based network interactions generated by the empty-nesters, but at a deeper level, they are spiritual interactions that allow the empty-nesters to establish and extend their social relationships through the media, as well as to maintain social relationships and seek identity recognition through long-term interaction. This mutual assistance in media-based interactions is also why their knowledge of and experience with media interactions are increasing, and this is a realistic reflection of their active integration into mediatization.

3.2. Mediatized Emotion: Memory Writing and Emotional Involvement in Network Perception

Emotion is a part of the way interpersonal interaction bears meaning. Interpersonal interaction appears to be information exchange, but it is essentially an exchange of meaning and emotion based on the network of acquaintances. With the acceleration of social development, this social network connected by space and time is gradually dispersing, and its emotional memory is also submerged in the shadow of urbanization. The reduction in contact with their children and the lack of social contact in general may affect the mental health of empty-nesters (Gong et al. 2017; Xu and Yang 2023). Empty-nesters who have experienced both traditional and mediatized societies lament the social changes brought about by media technology while also recalling their network of acquaintances from traditional societal practices. The elderly are a group vulnerable to mental loneliness. Driven by this doubly complex psychology, perceiving emotional memories and extending kinship relationships through media are the main ways of maintaining a link with the outside world.

We asked the empty-nesters about the impact that social software has had on their lives. The most common answers to this question were as follows: “I have made many new friends” and “I didn’t expect to get in touch with my old classmates (relatives) for many years through WeChat groups.” Compared with the general elderly group, the empty-nesters have stronger social and emotional needs due to the long-term lack of company from family members. Social media, represented by WeChat, has become a key link in the chain of their social network. They have connected with their families, developed friendships, and regained friends and relatives through WeChat, gradually establishing a social network. Their mediatized social interaction thus assumes, to a greater extent, not only the role of social interaction but also that of emotional interaction. As a digital form of self-expression (Blum-Ross and Livingstone 2017), social media—represented by WeChat—bridges the gap between empty-nesters and social networks. Media has become the main field, not only for social interactions, but also for reconstructing social memories and extending emotional relationships.

We also noted that the mediatized expression of emotions and the formation of on-line social memories are not simple. They also include factors such as gender and family structure. Although they belonged to the same group of empty-nesters, women showed a more obvious positive psychology in expressing emotions and extending social relationships through social media than did men, and their needs for self-expression and social expression were also stronger. This was more evident in the group of single empty-nesters (in which one member of a married couple had passed away).

The kids are quite busy. I usually don’t contact them”. (B001: interview)

They all have their own work and things to do, and I as a parent try not to disturb them. The granddaughters are also studying, so they contact us when they are free from work. (B004: interview)

In these circumstances, compared to female empty-nesters, males had a more negative attitude toward both self-expression and social expression, and were often in a passive state of waiting for connection, hoping that their children would take the initiative to remember and contact them. For male empty-nesters, the changes in social rules and practices created by media have, to a certain extent, erected an invisible wall, thus making them a gray group that has come to be ignored. It has been suggested that empty-nesters who live alone are more likely to be excluded from social relationships than those who live with their spouses (Feng and Phillips 2022), and the results of this study corroborate that to some extent. Paying more attention to this group and helping them better integrate is not only a problem of mediatization and social interaction, but also of social services for the aging.

3.3. Mediatized Identity: Relational Formation of Online Identity and Parasocial Connections

The key to interpersonal communication networks lies in the identity built based on daily interactions. For empty-nesters, this identity forms a boundary for them to establish social relationships and extend their social networks. This boundary is now facing structural contradictions brought about by changes in the social field. The interactivity, de-scenarization, and de-temporalization of mediatized socialization have, to some extent, blurred the lines of interpersonal interactions and reorganized the spatiotemporal order and social structure. With the penetration of media technology, however, mediatized socialization has become a key part of empty-nesters' participation in social life. The tension between media technology and social relationship identity creates a social connection between the virtual and real worlds through multiple interactions. The mediatized socialization of empty-nesters begins in this virtual interaction to complete a parasocial connection.

We found that, although the social style and habits of the empty-nesters have changed through the mediatized approach, the social rules and power relations built on traditional social relationships have not fundamentally altered in this migration of the social field. The elderly people are weaving their own social relationship networks centered on individuals that are based on WeChat group chats and extended by WeChat friend circles. The nodes and grids their social networks take various forms in the WeChat group chats, including family and friends groups, family groups, interest groups, and shopping groups, which ensure that identity and social relationships do not become disordered and dysfunctional.

Several of our old friends were teachers in the county elementary school before they retired, but rarely met after retirement. We now have a WeChat group called "our generation"—about eight or nine people. Because more familiar and good relationship, we chatter every day in the group, not only typing and chatting on idle days, but also send a variety of WeChat articles. I feel that WeChat contact frequently, and our relationship is also closer than before the online relationship. (B009: interview)

A mediatized identity based on this type of relational network and identity is gradually becoming the symbol of mediatized socialization, which is inherited from real social relationships and constructed by social media in a continuous and networked fashion. During the interviews, we met an elderly woman named Zhang who had lived alone for a long time. She told us she had a WeChat group of people who danced together in a square. Once, she helped some sisters introduce male and female friends to their children, and slowly the number of people looking for her in the group grew. This became a new identity for her in the group. This identity based on mediatized socialization further deepens with the dual role of online socialization and real interactions and becomes an extension of their social relationships.

At first, I just gave help to others, but slowly more and more people came to me. I felt quite happy and felt it was meaningful to do something like this . . . (B002: interview)

In recent years, with the outbreak of COVID-19 and the transition to regular pandemic prevention, socializing with a mediatized identity has become the norm among many empty-nesters, and their social networks and mediatized identities have changed as a result. Whether it is an online identity or real identity, what is behind this mediatized identity is the empty-nesters' participation in mediatized parasocial connections. The continuation of social interactions and the adjustment between mediatized and real identities are realistic problems created by the mediatized social practices of empty-nesters as the degree of their mediatization deepens.

3.4. Mediatized Action: Behavioral Orientation and Embodied Collaboration Online

If emotion is the endpoint of interpersonal interaction, then action built on emotion is the starting point. Regardless of the value and meaning of interpersonal interaction, it must be built based on action. For traditional societies, the presence of the body makes it possible to articulate emotion and action and to build the field of interpersonal interaction together. As the integration of technology and human society accelerates, social networks dominated by mediatized socialization not only break this spatiotemporal connection but also separate the emotion and action that build interpersonal interaction. Two people can participate in social activities at different spatiotemporal scales, which can create disorder and social isolation. Compensating for this social limitation through active media participation and debugging has become an important value orientation of mediatized socialization. It is becoming more evident in the empty-nesters. Mediatized socialization plays more of an extension and complementary role, while the establishment, maintenance, and interaction of a real social network require embodied participation. For empty-nesters, mediatized and traditional embodied socialization are two tracks that go hand-in-hand but do not appear to be deeply integrated.

*We first started adding WeChat friends to learn new dances, and to send notifications . . .
But later in the exchange we became familiar with each other, and a few of our friends
who chatted on WeChat often asked to go out to play. (B021: interview)*

At least for a short period, the influence of mediatization on the social life of empty-nesters occurs more as a method for interaction only but does not essentially touch the psychology and behavior of that interaction. A combination of social perceptions, life backgrounds, and other factors influence this, but the degree of mediatized socialization and the perception of it by elderly groups also have an impact on their social interactions. The impact of media on the social interaction of empty-nesters cannot be ignored. The changes in social style and content are having a subtle impact on this group in a way that is overlooked, and the problems caused by media social indulgence and dysfunctional social rules are becoming increasingly serious.

4. Discussion

This study focused on how empty-nesters interact interpersonally through the Internet and how this affects their normal social activities. Networked socialization has become a link to connect and extend social relationships among empty-nesters in China. Through the interview data, we found that the impact of mediatization on the online interpersonal interactions of this form of socialization appeared in four dimensions. The first dimension is the experience sharing and the mutual assistance dimension of online socialization. Empty-nesters experimentally establish social relationships through media, extend and maintain those social relationships, and seek identity through long-term interactions. The second dimension is the memory writing and emotional involvement dimension of online perception. Perceiving emotional memories and extending kinship relationships through media has become a mediatized bridge between empty-nesters and the outside world. Mediatization is not only the main field for empty-nesters to conduct social interactions but also the main field to reconstruct social memories and extend their emotional relationships. The third dimension is the formation of network identities and parasocial relationship connections. Empty-nesters extend their social networks through mediatized socialization

and reconstruct new social identities in the virtual world. These social identities are both inherited from real social relationships and constructed by social media in a continuous and networked way. The fourth dimension is the behavior-oriented and embodied collaboration of online interaction. Although media has been deeply embedded in the social networks of empty-nesters, their online behavioral orientation is more action-based. Mediatized socialization and traditional embodied socialization go hand-in-hand but are not deeply integrated for empty-nesters.

This study also noted that, although empty-nesters have gained basic survival skills such as managing social relationships and acquiring social capital in a mediatized society through apps such as social media (Tufekci 2008), which enhanced their sense of social participation and well-being, even so, we need to see the limited concern for empty-nesters at the level of the whole of society. For example, for some empty-nesters living in poverty-stricken areas, under the influence of multiple factors such as poverty, illness, and geographic remoteness (Gong et al. 2017; Guo et al. 2007), it is difficult to secure their basic life, not to mention the participation through the network in the mediatized society and to enjoy the convenience brought by social development. At the same time, this study coincided with the worldwide COVID-19 pandemic, a sudden healthcare disaster that has also caused harm to empty-nesters physically and mentally, and which has created some real problems that cannot be ignored, which should be of concern to us in terms of closed social care and the mental health of empty-nesters (Song et al. 2023; Bonsaksen et al. 2021). However, in our study, we found that, although the empty-nesters have been using apps such as social media for a much longer period of time, this has not had a great impact on their daily lives, and the empty-nesters continue to use social media according to their established rhythms.

For Chinese society, how the empty-nesters integrate into the mediatized society is a complex issue. The social transformation under rapid economic development, the lagging behind of public services, and the increasing pressure on families and society to provide for the elderly all affect the social participation of the empty-nesters to a certain extent. It is obviously difficult to fully understand the social participation of empty-nesters, which is a social issue of historical and practical significance, from a simple mediatized perspective. Therefore, the government, the media, and social organizations should pay more attention to the empty-nester elderly, focus on protecting the rights and interests of the elderly, especially the empty-nester elderly, solving the problems they encounter, and letting them feel the warmth of society.

At present, the empty-nester elderly have become a significant and widespread social reality in China, and even in the world's aging society. With the accelerated pace of urbanization and social development, urban empty-nesters have gradually become disconnected from the society, and there are various difficulties in their social interactions. In the context of digitalization and aging, the wave of media technology change gradually soaks and nourishes all fields of modern society; as human relationships are the essence and basic unit of social construction, the empty-nester elderly should not be left out of the digital media change, and their social interaction is worthy of attention. The concern and care for the empty-nester elderly are not only the requirements of personal family responsibility and moral emotion, but also a higher index of social civilizational progress. The consideration of the questions of how media technology plays a role in people's social interactions, and whether social media brings opportunities for empty-nesters to improve their life in their old age, also shows the value and charm of social science research rooted in reality, caring for the disadvantaged and exploring solutions.

5. Conclusions

This study found that, in the long run, mediatized socialization could play an increasingly important role in human life. However, the issue of how the elderly, especially empty-nesters, would integrate and participate in mediatized socialization has not received much attention. The study of this group's mediatized socialization has become a "gray area"

that is rarely mentioned in studies on mediatized human social development. We found that the empty-nesters in China have not rejected the influence of mediatized socialization on their social life and have even shown a positive attitude toward integrating into society in this way. Furthermore, mediatized socialization is not only a simple social interaction but also a form of social care and participation for the elderly. In the context of the COVID-19 pandemic, the limitations of traditional social interaction have made mediatized social interaction an important support for empty-nesters to relieve their worries, reduce their loneliness, and gain emotional support and social participation.

We also found that the adjustment of rules and power relations brought about by the change in the social field can also cause social disorder. Issues that need long-term attention and solutions include how to better coordinate social activities and parent–child relationships to improve the interpersonal pressure of empty-nesters, how to better handle the relationship between elderly groups and mediatized socialization, and how to solve the problems they encounter when integrating into mediatized society.

Currently, many countries around the world have entered into aging societies, and the empty-nester groups in these countries are experiencing similar problems as the empty-nesters in China. Due to limitations, we were not able to obtain the empirical materials of more countries' empty-nesters' media practices on the Internet, which is one regret of the study. Therefore, future research can be extended to more countries and involve more participants to obtain richer empirical materials. On the other hand, we only considered the impact of online practices on empty-nesters and did not provide consideration of factors such as children and family. Aging is an all-encompassing societal issue, and social participation is an important initiative to promote active aging (He et al. 2020). Further research in the future should pay attention to collecting empirical information from multiple dimensions, such as family and society, as well as comparing empty-nesters with other aging groups. This will help to further determine the impact of the Internet on the empty-nester group, which will also have a positive significance in actively promoting "mediatized aging" and solving the problem of aging in an aging society.

Finally, maybe the problems we mentioned in this research are insignificant from the perspective of the whole social dimension, but the pace of mediatization and social integration will not stop. Aging and the problems it causes are troubling more and more countries, and the attention to vulnerable groups, including the empty-nester group, in this process really needs to attract the attention of the whole of society. We believe that more and more empty-nesters need social care and the warmth of society because, one day, we will also be old, and will also become a member of this group.

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Appendix A

Table A1. Participants.

No.	Gender	Age	Pre-Retirement Occupation	Residence Situation	Social Media Dependency Level
B001	Male	78	Teacher	Couple living as a pair	Heavy
B002	Female	68	Teacher	Couple living as a pair	Moderate
B003	Male	69	Worker	Couple living as a pair	Heavy
B004	Male	67	Teacher	Couple living as a pair	Heavy
B005	Female	67	Teacher	Couple living as a pair	Heavy
B006	Male	71	Worker	Couple living as a pair	Heavy
B007	Female	63	Civil Servant	Living alone (husband passed away)	Heavy
B008	Male	75	Teacher	Couple living as a pair	Heavy
B009	Male	66	Worker	Couple living as a pair	Heavy
B010	Male	83	Worker	Living alone (wife passed away)	Moderate
B011	Female	62	Jobless	Couple living as a pair	Heavy
B012	Female	67	Worker	Couple living as a pair	Heavy
B013	Male	71	Businessmen	Couple living as a pair	Moderate
B014	Female	64	Civil Servant	Living alone (divorced)	Moderate
B015	Female	62	Jobless	Couple living as a pair	Moderate
B016	Male	68	Worker	Couple living as a pair	Heavy
B017	Female	74	Worker	Living alone (husband passed away)	Moderate
B018	Female	80	Teacher	Couple living as a pair	Heavy
B019	Male	71	Worker	Couple living as a pair	Heavy
B020	Female	72	Worker	Couple living as a pair	Heavy
B021	Female	64	Jobless	Living alone (divorced)	Heavy
B022	Male	66	Civil Servant	Couple living as a pair	Moderate
B023	Female	79	Jobless	Living alone (husband passed away)	Moderate

Table A2. Semi-structured interview question outline.

Question Category	Problem Example
Living conditions	Participant’s Profile (age, hometown, education, occupation and income status, etc.)
Basic information on the use of social media and other apps	Participant’s social media and other app use (app type, duration of use, degree of dependency, etc.)
	Participants’ reasons for using social media and other apps, pathways, goals, etc.
	Barriers encountered by participants in using apps such as social media
Impacts and changes in daily life after using social media and other apps	What attitudes do participants have toward apps such as social media (do attitudes change before and after use)?
	What impact has app use such as social media had on participants’ lives (both positive and negative)?
	What effects did app use such as social media have on the participants emotionally and psychologically (both positive and negative)?

Table A3. Coding categories.

Level 1 Coding Categories	Level 2 Coding Categories
Mediatized technology	Media technology “enlightenment” Media technology sharing and mutual assistance (content dimension) Media technology sharing and mutual assistance (emotional dimension) ...
Mediatized emotion	Linking and adapting family relationships Maintaining and extending kinship relationships Social relationship-building and expansion ...
Mediatized identity	Migration of real identity to mediatized identity Migration of mediatized identities to real identities Mediatized identity and real identity reconciliation ...
Mediatized action	Media technology as a social tool Mediated interactions oriented towards physical participation A clear “border” between real and virtual space ...

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