

Lack of alternative: Chinese first-time mothers' construction of social support network of online secondary groups

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Abstract

Background: As a result of rapid modernization and the long-term implementation of One Child Policy, Chinese first-time mothers' primary child-raising social support network is gradually shrinking. At the same time, the social support system for child raising is still very incomplete. Therefore, Chinese first-time mothers generally face great pressure.

Objective: This paper aims to understand Chinese first-time mothers' construction of social support network of online secondary groups.

Methods: This paper employs a qualitative research method, with semi-structured interviews with 23 participants, two focus groups and observations conducted in nine online child-raising communities.

Results: Based on the principle of instrumental rationality first-time mothers use various strategies to join different types of online communities and their online social support network is always the dynamic changing. The online social support network is a supplementary channel in which first-time mothers can obtain both instrumental and emotional support. But communication risks and ethical issues remain, such as information exchange interfered by commercial capital, widespread anxiety and superficial social relationships.

Conclusions: Online social support network is an alternative for Chinese first-time mothers and they urgently need a more well-rounded social support network system with government leading and multiple subjects participating in it.

Keywords

First-time mothers, social support, network of secondary groups, online community

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Introduction

In the 1970s, “social support” was brought up in the psychiatric study as a professional term. It means that a social member or a social group obtains help or support through different forms of interactions within the social network and collects social resources for self-development so as to change the living conditions.^{1–5}

First-time mothers refer to women whose first child is under 3 years of age.⁶ In order to grow into their motherhood role, they experience the greatest amount of physical and mental stress in a woman's life course Erlbaum, 2000.⁷ So they are usually regarded as members of a vulnerable

group.⁸ A cross-border comparative study finds that Chinese first-time mothers show more joy, anxiety and self-demand.⁹ In traditional Chinese society, a primary social support network based on biological and geographical ties was crucial to help first-time mothers fit in their motherhood

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role. However, as a result of China's rapid modernization and the long-term implementation of One Child Policy, there are more small families and more diversified family structures in the country. As a result, it weakens the function of a family to raise a child, and the primary social support network of first-time mothers is generally shrinking. In addition, because of the concepts of children's value enhancement and personality cultivation under multiple effects, child raising more and more stays in the private domain of the family. At the same time, capital and patriarchy together make the whole society expect mothers to play the perfect role as "the first and best person to raise a child" or "super mother between work and child raising."¹⁰ Therefore first-time mothers face challenges like being unable to fit in their motherhood role.^{2,4,11}

With the development of social media and its widespread use in the maternal and infant industry, first-time mothers generally expand their secondary social support network through online child-raising communities so that they can obtain more child-raising resources.¹²

Literature review and research questions

Social networking and its development in the age of social media

Although different terms are used to describe social support, researchers in this area have converged on five different types of support: informational, tangible, esteem, emotional, and social network support.^{3,13} With the increasing number of researches on social support, a multi-dimensional concept which includes both personal internal cognition and environmental factors has been gradually developed. Since its birth, social support theory has interwoven with studies on information exchange, interpersonal communication, emotional interaction and other activities.^{14–16} The research on social support can be divided into two perspectives: sociological and psychological perspectives. The former emphasizes that social support network is the source where individuals obtain support,¹⁷ while the latter focus on the personal feelings and perceptions of those supported.¹⁸

Social support network is a special form of the social network, so we need to understand social support network in the context of social network. Social network is a relatively stable system formed between actors through social interactions.¹⁹ Interpersonal interactions in both real life and online space are closely related to constructing social network, maintaining intimacy between people, collecting information and obtaining social capital. In 1973, Mark Granovetter²⁰ divided interpersonal relationships into two types, strong ties and weak ties, in his paper *The Strength of Weak Ties*. In strong ties, there is strong homogeneity of subjects and of information. They serve as the link within the group. In weak ties, there are strong heterogeneity of subjects and communication is based

on a long social distance. Therefore, it helps disseminate and exchange information and resources. The weak tie theory gave a great boost to research on social network. Early researches focused on the static structure and impact of social network, while later researches focused on the evolution and dynamic change of social network.²¹

Nowadays, social media provides multi-dimension communication patterns for interpersonal interaction and also opens up new fields for social network research. Some studies believe that spending time on social media will cut our time or opportunities to have face-to-face communication with social network members. It is not conducive for people to develop social network.²² But other researches find that in social media, the expansion of social network is faster, of lower cost and with less restrictions, which can bring more heterogeneity information and help integrate social resources. In general, it's conducive to maintain and expand individual social network.²³

Online social support for first-time mothers

At present, various socially supportive practices based on social media are thriving. First-time mothers widely use social media to get the social support they need throughout pregnancy, childbirth and child-raising. Related researches are from medicine, demography, sociology, psychology and other fields.

They mainly include (a) Studies on motivations to use social media. First-time mothers, especially those from late pregnancy to 6 months after delivery, are prone to feel lonely as a result of long-term detachment from the existing social network. Busy with raising their child offline, they gather on social media for support in their spare time.²⁴ During pregnancy and the year after delivery, they are the most stressed and use social media most frequently.^{25,26} (b) Studies on sources and types of support. From social media, first-time mothers can receive information support, instrumental support and emotional support from their families, friends, other peer groups, health workers and community workers.^{27–29} As social media has evolved from the communication technology that simply affects daily life and social interaction to the working technology that dominates the livelihood of some people, scholars pay special attention to how first-time mothers use social media to obtain economic support.³⁰ (c) Studies on support mechanism. Based on social identity and specific emotional identity, first-time mothers build an online social network with child-raising tasks.^{31–33} The psychological mechanism of imagined community makes anonymous and non-face-to-face communication among members a reality.³⁴ Social media enables them to find peer groups through very low barriers and to acquire support resources from online communication, which features asynchronous in time and space.³⁵ (d) Studies on effects of support. Studies generally recognize

its positive effects, suggesting that first-time mothers have more social interactions, acquire external resources and improve child-raising efficacy through social media.^{7,36–38}

Deficiencies of the literatures

These fruitful researches have revealed the interpersonal interaction pattern and social support acquisition pattern of first-time mothers in the era of social media. However, there are some limitations: (a) Most of them take first-time mothers in developed countries where the child-raising social support system is relatively mature as the research object. However, the child-raising social support system in many developing countries is far from perfect, and how first-time mothers get social support through the social media has not been paid enough attention. (b) Most of them focus on what social support first-time mothers get through social media, but they do not pay attention to what methods and principles first-time mothers use to obtain social support. (c) Most of them focus on the positive supporting role of social media in the mothering, but do not fully study the potential risks and other negative effects of social media for first-time mothers.

Proposal of the study questions

This study takes Chinese first-time mothers as the research object and explores their construction of social support network of online secondary groups, to addresses the following questions: (a) in developing countries with imperfect childcare social support system, how do Chinese first-time mothers use social media to build their secondary social support network? (b) What kind of social support did Chinese first-time mothers get through the network? (c) What are the potential risks of the secondary social support network?

Participants, ethics, and methods

Study design

A qualitative research design was used for this study. Qualitative inquiry can facilitate new areas of research by providing descriptive insights into the nature or meaning of everyday experiences.³⁹ This study mainly used semi-structured interviews to collect data, supplemented by focus groups and observations. Semi-structured interview is the most frequently used interview technique in qualitative research.⁴⁰ The combination of semi-structured interviewing and open-ended questions gave the interviewer the flexibility to navigate and probe first-time mothers' viewpoints on their construction of online secondary social support network and allowed for new topics of conversation to emerge.⁴¹ The COREQ checklist was used to ensure the methods were transparent and replicable.⁴² The study was

approved by the research ethics Committee of the School of Journalism and Communication at Sichuan International Studies University in China.

Participants

Based on relevant literature and actual situation, the participants were defined as first-time mothers who had joined at least five different online child-raising groups including WeChat groups and QQ groups (WeChat and QQ are the two most commonly-used social apps in China).

Participants in different cities of China were selected through convenient sampling and snowball sampling. In the beginning, the author selected a first-time mother with a 3-month-old baby in Chongqing through convenient sampling for pragmatic reasons. She neighbored the author (an experienced mother) and often came for parenting advice. She joined five different types of WeChat groups to communicate with new mothers across China and get parenting information. When the author invited her to be the first participant at the author's home, she readily agreed. Then, with snowball sampling method, a new mother in Shanghai was recommended as participant No.2, who was very active in several online child-raising communities and got acquainted with No.1 in one. Snowball sampling occurred concurrently with data analysis and continued until data saturation was met and no new themes or ideas emerged from the analysis.⁴³ In this method, a total of 23 participants in different cities in China were selected. Background information about them is shown in Table 1.

Data collection

Data collection began with semi-structured interviews and all the interviews were conducted by the author, an experienced interviewer, from November 27, 2018 to September 18, 2021, with total number of 32. In total, six participants requested a second or third interview because they had a lot to contribute. A plain language statement and consent form were emailed to participants and on return of written consent, an interview time was established. The interviews lasted between 30 and 90 min, 45 min per interview in average. Due to heavy teaching and administrative tasks, the author interviewed an average of 1 new mother per month. Three mothers were interviewed face to face in Chongqing (at the author's home or in a coffee ba), 10 by telephone, and 5 by QQ or WeChat voice connection. Interviews were conducted until data saturation was reached—no new data was collected. The interview topic guide was shown in Table 2.

To further collect data, the author conducted 2 focus groups with 5–7 participants in June 2021 and December 2021, each lasting 90 min. In total, 12 out of the 23 participants were selected to be in the focus group interview. There are two factors influencing their selection: (a) their

Table 1. Background information about participants.

No.	Age	Child's age	Occupation	Location	Amount of communities	Classification of communities
1	28	3 months	State-owned company manager	Chongqing	5	C&NC L&N
2	35	32 months	Athlete	Shanghai	6	C&NC L
3	41	15 months	Stay at home	Wuhan	10	C&NC L&N
4	27	13 months	Civil servant	Shanghai	5	NC L
5	38	10 months	Computer programmer	Zhengzhou	7	C&NC L&N
6	23	11 months	Stay at home	Lanzhou	9	NC L
7	25	2 months	Communication engineering employee	Guangzhou	5	L
8	26	3 months	Beautician	Nanjing	8	C&NC L&N
9	27	15 months	Delivery person	Fuzhou	9	NC L
10	42	34 months	Teacher	Zhengzhou	8	C&NC L&N
11	33	24 months	Stay at home	Yinchuan	10	NC L
12	36	15 months	Delivery person	Yinchuan	9	NC L
13	33	19 months	Salesperson	Yinchuan	5	C&NC L&N
14	29	33 months	Public institution employee	Shanghai	6	NC L&N
15	28	1 months	Stay at home	Xi'an	6	NC L&N
16	26	5 months	Salesperson	Xi'an	6	C NC L&N
17	32	28 months	Taxi driver	Changsha	5	NC L
18	31	6 months	Company secretary	Xi'an	5	

(continued)

Table 1. Continued.

No.	Age	Child's age	Occupation	Location	Amount of communities	Classification of communities
						C&NC L
19	32	9 months	Stay at home	Chongqing	8	C&NC L&N
20	25	5 months	Cleaner	Zhengzhou	9	NC L
21	27	8 months	Clerk	Chongqing	10	NC L
22	29	4 months	Sales industry employer	Changsha	13	C&NC L&N
23	23	33 months	Stay at home	Guangzhou	10	C&NC L&N

Note: C: Commercial; NC: non-commercial; L: local; N: nationwide.

Table 2. Interview topic guide.

Topic	Questions
Demographics	Age, marital status, occupation status, highest education attained; child's age, child's sex
How to build online secondary social support network	Can you describe how you first joined child-raising online community? What Child-raising online communities have you joined? How do you find more child-raising online communities? How can you join more Child-raising online communities? Have you ever dropped out of a child-raising online community? If so, why? What are your principles for choosing a child-raising online community?
Reason to build online secondary social support network	What is the reason for you to build your online secondary social support network?
Support from online secondary social support network	What social support have you received from your online secondary social support network? How do you get social support from your online Secondary social support network? Have you ever provided social support to other members of your online communities while gaining social support?
how to evaluate online secondary social support network	What positive experiences have you had in your online secondary social support network? What negative experiences have you had in your online secondary social support network? How do you evaluate the role of online secondary social support network in your parenting process? Will you continue to build and optimize your online secondary social support network in the future?

willingness to participate and (b) the clear views or confusions they expressed on relevant issues during the interview. In order to protect them from being exposed to the risk of coronavirus disease 2019 (COVID-19), the author used Tencent meetings (a popular audio and video conference software in China). The first focus group focused on how first-time mothers build and optimize their secondary social support

networks based on online communities. The second one focused on the problems and shortcomings of obtaining social support through online communities.

All the above interviews were recorded by professional tape recorders (with the participants' consent), and then transcribed as texts with the Iflytek Hear APP for further analysis.

Since this study involves the use of online communities of first-time mothers, it is supplemented by the method of observation. During the interview, the author asked every mother to introduce the online child-raising communities she had joined. If the author realized the community was representative, she would ask for joining it under possible conditions. From December 2018 to June 2020, the author joined nine communities. From the perspective of sponsors, establishment time and characteristics, they covered all forms of online child-raising communities that the 23 participants had joined, representative enough to conduct the study. Specific information about these nine are listed in Table 3.

According to access rules, these nine online communities could be divided into three categories. No. 2, 5, and 6 were public to all netizens, so the author joined them by scanning the QR code provided by the introducers. Numbers 1, 4, 7, and 8 were semi-public and had a “filtering mechanism,” so the introducers had to explain the identity of the author and the purpose of the research to the group administrators. No. 3 and 9 were private communities with paid membership. The introducers explained the identity of the author and the purpose of the research to the group administrators, and then the author added them as friends, showing her ID card and the letter of introduction from her research institution. Then the author was allowed to join the group after signing a commitment (promising that the information obtained from the communities would be used only for academic research).

The author adopted different observation methods in different types of online communities, and strictly abided by the principle of not disturbing the daily communication

mode in each online community. In the public online communities, the author did not have to introduce her identity to the group members, and participated in the daily communication of the members as her actual identity (a middle-aged mother with rich parenting experience). In semi-public online ones, the group administrators introduced the identity of the author and the purpose of joining the groups to the members, and then the author mainly observed and sometimes participated in the communication of the members. In the private ones, the author could only observe the communication as a “lurker” and could not speak according to the request of the group administrators.

Due to daily duty, the author could only concentrate on observing them for half an hour every night, focusing on the ways new mothers obtain and provide social support and the topics they often discussed. The APP WeSync helping collect back-up data (including texts, pictures, videos, memes, links and other messages) was used to export important chat information in each online community into Excel tables, contributing to observational data.

Since each method has its own limits and biases, and single methodologies result in personal biases, using multiple methods paves the way for more credible and dependable information.^{44–46} The author observed participants’ interactions with other members in online parenting communities and interviewed them to understand their motivations. By triangulating the data collected from interviews and observations, a test could be made between what was said and what was done by the studied. The multi-methods triangulation contributed to a more comprehensive and accurate understanding of the results.

Table 3. Specific information about the nine child-raising online communities.

No.	Platform	Sponsor	Established time	Classification	Membership
1	QQ	Hospital	2015	NC, SP	450
2	WeChat	Community	2020	NC, P	310
3	WeChat	Psychological therapist	2017	C, PR	125
4	WeChat	Maternal and infant store	2015	C, SP	397
5	WeChat	Internet company of children and infants	2016	NC, P	379
6	QQ	Public institution	2019	NC, P	127
7	WeChat	Internet company of children and infants	2014	C, SP	478
8	WeChat	Ordinary first-time mother	2020	NC, SP	127
9	QQ	Children’s diet therapy institution	2015	C, PR	347

Note: C: commercial; N: non-commercial; P: public; SP: semi-public; PR: private.

Data analysis

All the data obtained through semi-structured interviews, focus groups and observations were included in the analysis. To eliminate researcher bias and prejudice, the author invited an associate professor of sociology and a graduate student of Journalism and communication, both with a good research trajectory, to analyze together. Thematic analysis was conducted manually in line with Braun and Clarke^{47,48} and the topic guide provided an initial structure for developing the codebook.⁴⁹ A subset of the data was initially analyzed paragraph by paragraph by the three analysts to finalize the codebook. Analysis involved reading the data closely, identifying emergent patterns, labeling codes to data, and generating themes and subthemes. Analytical rigor was ensured by the three analysts scrutinizing, comparing and discussing the coding to resolve any discrepancies identified. Ultimately, the three agreed that all the data could be grouped into three major themes: (a) process of first-time mothers using the online community to build and optimize their online secondary social support network, (b) social support received from the online community and (c) advantages and disadvantages of obtaining social support from the online community. Under each major theme, the analysts further developed subordinate themes to represent the meaning dimensions and basic attributes. To avoid misrepresentations, data errors and to collect feedback for theme enhancement, the generated data was validated with five of the participants,⁵⁰ and the feedback collected was used to strengthen the themes. In order to make the data analysis more intuitive and clear, the author mapped the structure of the themes (see Figure 1).

Throughout the process, the author wrote memos to record her findings, ideas and preliminary conclusions, aiming to reflect on her research through writing. In order to protect the privacy of the interviewees, the author concealed their names, and identified them with Arabic numerals which indicates the order they are interviewed.

Results

Multiple communities and multiple social support

First-time mothers will try to join online communities founded by various subjects, such as commercial organizations or nonprofit parties. The former mainly includes online communities organized by maternal and child stores, early education institutions and various new media accounts for mothers and children, where first-time mothers can obtain convenient and targeted commercial services provided by various commercial institutions, such as purchasing maternal and child products and obtaining information about early education. The latter mainly includes online communities organized by communities, hospitals at all levels and first-time mothers themselves, where first-time mothers can consult about relevant policies, obtain medical information, give nonprofit mutual assistance, etc. In addition, they may join the local online communities and the nationwide online communities at the same time. The former mainly consists of first-time mothers in the same community or city. It's beneficial for members of the same area to share child-raising resources and communicate. But resources in the communities are too common, so those who want to get more heterogeneous child-raising resources may join the nationwide online communities. Such communities consist of first-time mothers across the country, featuring open boundaries, more integration and more child-raising information. The more types of online communities first-time mothers join, the more likely they are to build heterogeneous social networks and use more weak ties to gain richer social support.

First of all, they value instrumental support. It includes the following forms.

- (a) Information support in child raising. In the traditional cultural concept, young women usually first turn to their primary support groups (especially their mothers and mothers-in-law) to learn to be qualified new

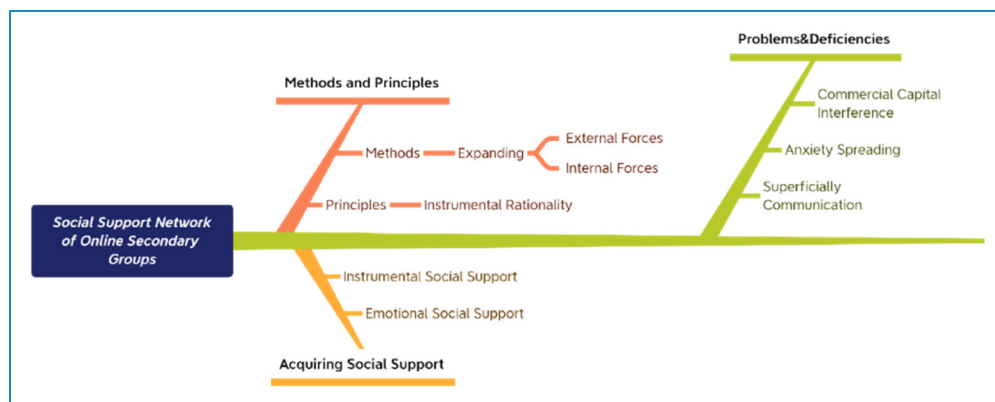


Figure 1. The structure of the themes.

mother. However, with the rapid change of modern scientific medical knowledge (especially the popularization of the scientific concept of child raising), the intergenerational difference in parenting style will bring irreconcilable contradictions to the two generations of women, which is not conducive to the establishment of the maternal status of new mothers. In interviews and observations, the author finds that new mothers have gained a lot of valuable parenting information by interacting with peer groups in online communities. It can be said that peer groups have provided important information support for their socialization in the process of child rearing. It usually happens when first-time mothers consulting on the children's growth and education issues, learning the maternity leave policy, medical reimbursement policy and other information.

The information dissemination mechanisms of parenting online communities are conducive to the information support of new mothers to each other. Firstly, communication in a network community is both instant, immediate and day-to-day. A mother can post a question to the group anytime, anywhere, and get a quick response from other members. At the same time, the network community can also save all the chat information, so that other members who do not participate in the communication in time can check the chat records in the group to understand the whole conversation, so as to complete the information sharing process.

I take care of the baby by myself and I'm too busy with her, so I focus on the information accumulated in the child-raising communities every day while she is sleeping, and it has been a great benefit to me. Because this on one hand can alleviate my parenting fatigue, on the other hand can teach me a lot of parenting knowledge. Sometimes when I see the valuable parenting information shared by other mothers, such as children's dental care information, parent-child picture book reading guide, etc., I will share it in the other child-raising communities to benefit more mothers. Excerpt of the semi-structured interview with No.17 on December16, 2020]

Secondly, communication in online communities is both anonymous and non-anonymous.⁵¹ In some communities that communicate anonymously, first-time mothers speak up when discussing problems or expressing opinions, and receive diverse parenting information. While those real-name communities tend to include familiar members, mothers will be certainly restrained in communication, but the information is more reliable, helping them obtain reliable information support.

In the process of information dissemination in the online communities, the new mothers obtain information by reading messages from others, and builds their own parenting knowledge system through decoding, so as to

accumulate new knowledge, maximize external help and reduce the time and energy cost of learning.

Financial support in child raising. Some first-time mothers simply give up their previous job and stay at home to take care of their children. But in order to relieve the economic pressure of raising a child and supporting the whole family, they choose to work part-time as WeChat businesswomen to sell maternal and infant products in online communities. The author observed in several online child-raising communities that some new mothers often sell their used products in groups. When other members ask why they have so many to sell, their response often goes, "I often impulsively buy stuff that ends up piling up and taking too much space in my house". With the development of China's economy and the continuation of the phenomenon of fewer children, many young women are particularly willing to buy overseas high-quality products (such as milk powder, drugs, skin care products, etc.) for their children. This provides part-time opportunities for new mothers who have overseas purchasing channels (such as their relatives living abroad). Through semi-structured interviews, the author learned that they often join many online child-raising communities and post advertisements to sell various overseas childcare products to make considerable profits. Due to constant interactions in online communities, first-time mothers in the same online community have basic trust in each other, and they can rely on the trust from others to market their products precisely in the group.

Besides, first-time mothers also obtain emotional social support from online communities. In those communities based on weak ties, they aren't very much troubled by social relations. And because of the anonymity of online communication, they don't have to worry about their social roles and images in real life. At the same time, various forms of information in online communities, such as texts, pictures, audios and videos, greatly enhance their desire and ability to actively express themselves. Because of these factors, their emotional communication involves a wide range of in-depth topics, varying from child raising to relationship with mother-in-law, spousal relationship, life and work. Their emotional interactions can be based on substantive matters, or not. The non-substantive interactions refer to festival greetings, welcoming new members to the group, snatching electronic red envelopes and others. For the depth of the communication, some first-time mothers may see online communities as a "place for secret conversations".

It's hard to open up on certain topics even with good friends. But in online communities, they can talk about physical changes during pregnancy, dilemma during childbirth, postpartum depression, sexual life and total

household property without any restrictions. Excerpt of the semi-structured interview with No.3 on January1, 2019]

At the same time, real-life and online interpersonal interactions can overlap and promote each other.⁵² Therefore, they can obtain not only online emotional support but also offline support beyond the shackles of media technology. The author observes in some communities that some active community members organize group members to participate in regular or irregular gatherings (such as group dining or holiday travels). Then they post photos or videos of the party to the communities, receiving likes or positive comments from other members. New mothers who have attended the party tell the author that some online acquaintances who have never met each other could become friends in real life through this process. So their weak ties could be transformed into strong ties, which helps them accumulate child-raising social capital while expanding the secondary social support network of community members.

To sum up, by joining different types of child-raising online communities, first-time mothers can easily obtain instrumental and emotional social support. In this way, secondary social support network is more needed in first-time mothers' child-raising practice.

“Bridge” in expanding secondary online social support network

In order to obtain more high-quality child-raising resources, first-time mothers will look for high-quality online communities through multiple channels to embed themselves in a wider secondary social network. “Bridge” serves as an important agent to connect actors of heterogeneous groups, through which actors can come across into heterogeneous social network.⁵³ Therefore, first-time mothers must actively use various strategies to find various “bridges” so as to expand their secondary social network.

Most first-time mothers mainly use the “bridge” of outside help. Firstly, when they are pregnant, they would consult about child raising from their trusted primary support group members, mainly family, friends or colleagues, who may have already embedded themselves in various high-quality child-raising online communities. So they may introduce first-time mothers to these communities to expand their secondary social support networks. Secondly, the elite figures in the field of child-raising such as medical workers, early education instructors and community leaders are often placed in higher social status and have rich social resources for child-raising. So first-time mothers will actively establish contact with them.

My child often gets sick. By chance I took him to a well-known private children's clinic and got acquainted with Dr Zhao of the endocrinology department. As a sociable

person, I successfully added Dr Zhao as friend on WeChat. And then I maintained a good relationship with her on WeChat. Thereafter, Dr Zhao told me that doctors from different departments in the clinic had set up their own VIP medical consultation groups. Doctors would answer mothers' questions about child-raising at fixed times in the WeChat group, only if the members pay some membership fee. Introduced by Dr Zhao, I joined two VIP medical groups, bringing great convenience to my online consultation. Excerpt of the semi-structured interview with No.2 on Dec.16, 2018]

In the dynamic transformation of this relationship, the original doctor-patient relationship between No.2 and Dr Zhao, an accidental relationship, evolved into a friendship with direct communication on WeChat, a long-term relationship. In this way, Dr Zhao became an important “bridge” that connect No.2 with new social relationships, to embed her in more online communities with high-quality medical resources. It is also worth noting that many commercial organizations such as maternal and infant products manufacturers and new media operation companies about child-raising have set up various new-mother online communities for marketing purposes. They absorb community members through various channels, such as posting the social accounts of community operators in the major online child-raising forum or hospital maternity clinic. First-time mothers will add the corresponding community operators as friends according to their own needs. Through these “bridges”, they embed themselves in wider secondary social networks.

In addition to using the “bridge” of outside help, a few first-time mothers will also expand their secondary social network through self-help. Firstly, first-time mothers may join other online communities with their own technological capital of specific child-raising skills. For example, in a WeChat group for same-period first-time mothers established by Baby Tree, a famous Chinese Internet enterprise for mothers and children, No. 17 often taught moms how to dredge postpartum breast, which is a much-needed service for those in breastfeeding.

Many first-time mothers often add me as a friend, consult and pay me for solving problems. In this way, I can get to know more people of my peer groups to get more child-raising resources. Excerpt of the semi-structured interview with No.17 on December 28, 2020]

Secondly, first-time mothers can use their personal qualities to win over their peers. For example, No.20 resigned after pregnancy from a company in her hometown in northwest and moved to a commercial community in Chongqing to be a stay-at-home mother. She didn't know any neighbors, but when her child was 3 months old, she accidentally joined a new-mom QQ group established by community

members, which gave her a precious opportunity to expand her network by means of her motherhood role.

I am a person good at thinking of others. I often answer child-raising questions of the group members or comfort anyone who complains in the group. I even give out some second-hand products for free. So I gradually won popularity in the QQ group, and many members added me as a friend. I got to know many first-time mothers in this area and consult them when I have problems in child raising. Excerpt of the semi-structured interview with No.20 on December 23, 2020]

It can be said that the process of using online communities is not only a process of expanding secondary social relations but also a process of how they use the original social capital to have two-way interactions with other members in social media.⁵⁴

To sum up, first-time mothers have effectively expanded their secondary social support network by joining various types of online communities with various outside help and self-help. As actors, the larger online secondary support network first-time mothers have, the more likely they can obtain social resources for child-raising.

Principles of optimization and the dynamic processes

In order to maintain their expanding social support network of online secondary group, first-time mothers need to spend a lot of time and energy interacting with various members in different online communities. So they might find it hard to maintain all these relationships. As a result, it is imperative for them to optimize their online social support network of online secondary groups.

In most cases, first-time mothers optimize their online social support network of online secondary groups based on the principles of instrumental rationality, and benefits is the top priority in their choice. For example, some first-time mothers would join some resales groups to sell second-hand infant goods. No. 19 new mother joined 3 s-hand maternal and child products sales groups.

I want to avoid the dilemma of feeling embarrassed about charging buyers from my primary groups. It's an ethical issue of "mianzi" (a Chinese term indicating personal decency). Excerpt from the interview with No.19 on February 4, 2021]

Some first-time mothers feel especially confused during their early pregnancy, then they tend to rely heavily on peer child-raising online communities to obtain child-raising guidance and emotional comfort,²⁶ but when they gradually adapt to the motherhood role and no longer expect to get more child-raising resources from these groups, they will remain silent or quit the group. In

general, if an online community can still benefit them, they stay in it. Otherwise, they would quickly end this weak-tie relationship and continue to search and join more "useful" online communities. Utility plays a crucial role in first-time mothers' decisions of staying in or out of their online relationships in online communities. Such decisions are rationally made by first-time mothers to operate and optimize their secondary social relationships. These choices and actions of first-time mothers reflect their tendency to "instrumentalize" online communities.

In the process of first-time mothers' motherhood practice, the construction of social support network of online secondary groups shows obvious dynamic characteristics. When examining the construction of secondary social relationship networks of first-time mothers, several dynamic stages of interpersonal interaction should be considered: the selecting and orientating stage, the in-depth communicating stage, the relationship establishing stage and the continuous interacting stage.⁵⁵ Many relationships may not finish the whole process. In the selecting and orientating stage, first-time mothers often have strong needs and specific purposes related to their child-raising practices. So they need to consolidate their membership and status in the community. To do this, they try to interact with other members more frequently to maintain their intimacy with other members. But in the following three interpersonal interaction phases, many first-time mothers appear to interact with other members significantly less frequently. This is mainly because weak ties take a larger proportion in the secondary social support network.⁵⁶ The background and identity of other members in online communities are somehow vague, so there will be certain taboos and constraints that will limit following in-depth interaction. So they maintain their social relations with other members at a superficial stage and no longer try to deepen these relationships.

It can be seen that first-time mothers will strive to expand the scale of online social support network of online secondary groups in the child-raising process in order to obtain more child-raising resources. But as the relationship network expands gradually, it will cost first-time mothers more and more time and energy to maintain their relationship network. To solve this problem, they will enter into a stage of optimizing their relationship network based on instrumental rationality, and those unneeded "relationship nodes" will be abandoned, so that their secondary social relationship network will always be in the dynamic process of construction, maintenance or demise. In this way, they consolidate their existing child-raising resources and constantly excavate new resources.

The Possible risks and ethical issues

The online secondary social network is a double-edged sword. On one hand, in online communities, first-time

mothers can build their network based on greater communication initiative and broader relations, which lowers the threshold for first-time mothers to communicate and reduces the cost of maintaining a secondary social relationship network. But on the other hand, weak ties, communication anonymity, imperfect legal and ethical norms and other factors have caused some potential communication risks and ethical issues in child-raising online communities.

Information interfered by commercial capital. In such online communities of first-time mothers, people mainly share knowledge of child raising. First-time mothers need authoritative and accurate child-raising information,⁵⁷ but the quality of information in such online communities is often worrying. In China, a large amount of commercial capital is strongly involved in child-raising online communities. In particular, it is worth noting that some large maternal and infant commercial institutions have directly cooperated with the obstetrics and gynecology departments of hospitals in many cities across the country, using them to attract more customers. These institutions analyze the attributes of users in child-raising online communities, develop different operating strategies and activate communities through online courses and expert Q&A. Their ultimate goal is to target first-time mothers for marketing. Therefore, the child-raising information in online communities provided by these commercial organizations are often highly business-oriented. For example, the author observed that they would claim that milk powder of some brand can replace breast milk, and preach moxibustion or even enemas for babies. In the second focus group organized by the author, a new mother said, “We frequently cite the network community as a source of parenting information commonly consulted during the transition to mothering, however, we are often overwhelmed by the commercial information.” Some commercial institutions even privately develop the active members in these communities into employees and let them release inducible business information in the process of chatting. Many first-time mothers lack of child-raising experience and can be easily misled by these commercial advertisements disguised as “knowledge”.^{58,59}

Those communities have been somehow reduced to marketing platforms for business, and the social interactions between first-time mothers have actually been controlled by commercial capital. Overwhelmingly dominated by capital logic, first-time mothers cannot interact based on their own needs, methods and behaviors. In addition, in those child-raising online communities run by non-commercial institutions, many first-time mothers can interact at free will, but their knowledge background, child-raising ideas and child-raising skills aren't at the same level. So they often hold different views on child-raising. The dispute over ideas often turns into mutual accusations among its members. Through discussions or observations, first-time mothers could fall into the dilemma of child-raising

information choosing, which also makes it difficult to obtain effective information support from online communities.

Anxiety easily spreading in online communities. Child-raising online communities expand space for interactions between first-time mothers, bringing first-time mothers together in a fixed field. The daily interactions of online communities covers a wide range of topics, including personal experience and knowledge sharing, shopping information exchange and complaints, etc. The lives of others are directly presented in the context of group communication, which makes it easy for first-time mothers to compare their child-raising methods with others. At the same time, the online communities enable them to make self-presentation in various forms, including texts, pictures, videos, hyperlinks, geographical location, etc. The inclusiveness of technology gives a more specified and diversified angle for social comparison among community members. In the first focus group organized by the author, some new mothers mentioned that some first-time mothers in online communities had described in details about how to buy extravagant infant products, how to choose high-quality early education institutions, how to spend a lot of time on parent-child interactions, how to comprehensively plan the “golden development period of life” before the age of three, etc. They all agreed that these words had made some members feel very anxious because of their poor financial situation. It can be seen that the group members gradually acquire sense of anxiety imperceptibly in the emotional atmosphere of the group.

Superficial social relationships in online communities. In order to obtain social support from larger online secondary social networks, first-time mothers need to join more communities and maintain contact and interactions with members of different online communities. The overstretched social network will make them develop a strong sense of social fatigue. As a result, first-time mothers can only maintain superficial social interactions with most members of the secondary social support network, and the communication between them tends to be random, short-term and superficial. Therefore, superficial social interactions seem to relieve social loneliness and other negative emotions of first-time mothers, but in fact, it exacerbates these negative emotions at a deeper level, which might not help them improve their situation in the long run.

Discussion and conclusion

As first-time mothers in many countries and regions increasingly use online social communities to assist with child rearing, research on how they use them to construct their own secondary social support networks is particularly important.

Through semi-structured interviews, focus groups and observations, this study finds that social support networks

of online secondary groups based on online communities somehow replace or complement some functions only available in primary support groups in traditional society, helping first-time mothers expand their social support network of online secondary groups significantly. The online secondary social support network is essentially a complete relationship system, the product of interactions of first-time mothers with various child-raising institutions and peer groups. This is a new strong mode of social convergence, which breaks the bondage of fixed traditional society and its mechanical unity, building a complex interpersonal relationship chain for first-time mothers. At the same time, it inherits the cohesion and identity of the traditional community, making up for the heterogeneity and alienation of modern communities. Based on online communities deeply pervasive in daily lives, women with common childcare tasks can gather freely and build a communication platform. It frees them from the past state of atomized existence and turns them into individuals with subjective initiative. First-time mothers use the collective power of online communities to obtain emotional and instrumental support so that they can alleviate their anxiety and uncertainty while growing into the motherhood role and break the restrictions and bondage of social structure with actions. From this point of view, using child-raising online communities is not only a personal but also a socialized behavior. It presents the cultural reunion in modernization, showing how communication maintains the society. It's of great social significance for first-time mothers who lack social support for childcare.

The study resonates with existing research on the important support that online communities can have for new mothers.^{7,27,32,33,36,60}

Different from other studies, this study reveals the dynamic changes of first-time mothers in constructing online secondary social support networks. The study finds that the parenting process is highly fluid, and new mothers face different challenges at different stages of parenting, so they try their best to join various types of child-raising online communities and make full use of various "outside help" and "self-help" to find a variety of high-quality child raising online communities. This enables them to increase the number and size of their online secondary social support networks in order to obtain effective social support that is more appropriate to the current stage. However, as the scale of online relationship network becomes larger and larger and it costs more and more to maintain the network, they will optimize the relationship network based on the principle of instrumental rationality. In this way, their online secondary social support network is always in the dynamic process of construction, maintenance or extinction so that they can consolidate the child-raising resources they have obtained and constantly explore new resources. This reminds us to consider the dynamic change process of online secondary

social support network when studying the social support of new mothers.

Another difference from existing studies is that this study finds another form of support besides five types of social support¹³: financial support, which was rarely proposed before. The author believes that future research should include how vulnerable groups obtain financial support in the conceptual framework of social support. An important reason for financial support is many new mothers have released a large amount of consumption potential in online child-raising communities. Through interviews with new mothers, some scholars found that their purchase of baby products can be divided into two consumption rituals, namely, nesting and giving, which provide a sense of control and preparation for the new mother's identity and prepare them for the smooth transition to the mothering role.⁶¹ Due to the deep penetration of online communities in the field of mother and baby consumption and the rapid development of the domestic and foreign delivery industry, many new mothers take advantage of their motherhood status and the trust relationship formed with other members through long-term interaction to do part-time sales of related products, so as to obtain the financial support they need in the process of child-rearing. It can be seen that in the online community, new mothers are not only passive objects waiting to be supported but also active actors in obtaining financial support.

The last difference between this study and existing studies is the initiative of Chinese in seeking social support. Social support theory, born in western society, emphasizes the positive influence of group support energy on disadvantaged groups. However, existing studies have found that due to differences in social and cultural backgrounds, Westerners and Asians show great differences in seeking social support.^{62,63} The cultural norms of Asians are group harmony and avoidance of public stigma.^{23,64} Expressing sadness and weakness are often regarded as cowardice. Meanwhile, the social and cultural context does not provide a benign soil for people to pour out their negative emotions. According to some studies Asian mothers are less likely to seek social support to cope with stress.⁶⁵ However, this study finds that first-time mothers in China are now making full use of their initiative to seek much-needed social support in online communities. This may be related to the changes of social and cultural context that contemporary China undergoes. After the reform and opening up, socialist market economy, economic globalization and technological informatization overlap and weave, laying the groundwork for the growth of new generations. Women of childbearing age in China are the natives of the market economy, economic globalization, and the Internet. Their main characteristics can be classified as the following three: First, pragmatism. In the background of market economy, the new generations turn out interest-oriented and competition-driven. As contemporary new mothers grow

up, pragmatism is their basic characteristics. Compared with women living in the traditional era, they are more daring to directly express their interests and demands; Second, open attitude. Having experienced the historical process of economic globalization, modern new mothers are more open-minded, more active in thinking, and more adept at actively finding ways to connect with people and draw support from them; Third, network living. The life and learning styles of modern new mothers have changed from “touching the Internet” to network living. In their view, the Internet is a tool for information exchange, but also a platform for life, study and work. After becoming new mothers, it is natural for their parenting practices. Therefore, when studying the problems of vulnerable groups seeking social support based on the cultural background in the future, we should consider the special changes of the background with social development.

As a new way of socializing, online communities are very beneficial to expanding secondary online social support network, but this paper finds the possible risks and ethical issues that new mothers encounter when building secondary social support networks, which we need to pay special attention to and urgently address. Firstly, what can't be ignored is that a large number of child-raising online communities are dominated by the logic of commercial capital. Many first-time mothers always interact based on both interactive logic and capital logic. Although first-time mothers can have wider and deeper social interactions in the process of capital operation, meanwhile, their relationships are also constantly used and shaped by commercial capital. Therefore, we need to pay attention to improving first-time mother's communication ability and quality by policies, technology and other means. It's also an important issue that we continue to think about how to avoid first-time mothers being controlled and dominated by capital logic.

Secondly, we must notice the negative issues of widespread anxiety and superficial social interactions in child-raising online communities. It requires first-time mothers to continuously boost personal child-raising wisdom and media literacy in the mobile Internet environment.

Thirdly, it is necessary to reflect on the fact that first-time mothers' real-life interactions are counteracted as a result of the constant use of child-raising online communities. While it seems like online communities have brought first-time mothers back to what McLuhan called the “Retribalization Era”, advances in technology have not really compensated for its loss of real-life interactive situations. And technology should not replace people's dominant position in the entire process of communication. First-time mothers should use communication technology rationally and properly in social interactions, and break free from severe dependence on media. They also should properly deal with the relationship between communication subject and communication technology.

Fourthly, we need to be vigilant against the value orientation of first-time mothers that values instrumental rationality while building a secondary social network. Many of them do not regard other members of the online community as equal subjects instead they are regarded as instrumental objects when they communicate in online communities. It hinders the spiritual and deep communication between first-time mothers and damages the conversational connotation of communication. As a result, although first-time mothers' instrumental rationality helps them improve their child-raising abilities, most of their needs for spiritual communication aren't met in fact. Thus, they feel increasingly empty and even anxious in the secondary social support network they have built. Therefore, we should promote first-time mothers to develop from instrumental rationality to communicative rationality in online social interactions, pay attention to communication at the spiritual level and regard the relationship between people in the online communities as the relationship of equal interaction among multiple subjects.

The last but most important thing to note is that the online social support network is just an alternative choice for first-time mothers to alleviate the pressure of child raising. Their online parenting practice seems to prove that “it takes a network to raise a child”. However, in fact, raising a child requires the whole society. That is to say, parenting subjects are actually multifaceted. Multiple subjects should take practical measures to support their parenting tasks. The more eager first-time mothers are to build their social support based on network communities, the severer their lack of social support is. We should understand that the purpose of their online practice is to seek help from the whole society.

In the future, there are two ways we can think about social support for new mothers. Firstly, from the practical experience of child raising in developed countries (e.g. Canada, New Zealand, Japan, Nordic countries, etc.), it is inevitable to construct a cooperative mechanism with government, market, society and family jointly raising a child.⁶⁶ The Chinese government is already aware of the problem and is taking steps. On May 31, 2021, the Political Bureau of the CPC Central Committee proposed to further optimize child care policies and supporting measures. This will be a systematic and long-term work.⁶⁷ As the backbone of the whole child-raising service system, the government needs to improve the top-level design of child-raising policies, plan the overall development blueprint of child-raising services, establish a strong policy guarantee mechanism, introduce positive parenting support policies, support the market child-raising services and develop community childcare services. Community services on child raising should start with the construction of infant care facilities, government care subsidies, public service facilities in urban and rural communities and projects on early development of infants and children. Due to the market failure, the government needs to strengthen supervision and intervention of the services, improve

industrial standards, and make sure more targeted child-raising services that meet the requirements are given. When giving child-raising services, we should make sure resources, services, management and other elements sink to the community and family through the process of marketization and socialization. In this way, we need to provide high-quality and inexpensive child-raising services for families so as to effectively solve the difficulties faced by first-time mothers. Secondly, we should also notice that in developing countries (e.g. China), there is a huge tension between the large number of new mothers who need support and the relatively small number of social support resources that the state can actually provide. Therefore, we must come up with new ideas to support them in a variety of ways. With the rapid development of the Internet today, we can make full use of all kinds of new media, including social media, and standardize their guidance and management, so as to establish a comprehensive and reliable Internet-based social support system for new mothers.

Limitations and future research

This study used qualitative methods to gain an in-depth understanding of Chinese first-time mothers' construction of social support network of online secondary groups. The findings were strengthened by the rigor demonstrated in data collection and the analysis. However, as is the case with any other study, this study has several limitations. First, this study takes first-time mothers in different cities in China as the participants but does not study how rural first-time mothers obtain social support through social media. Furthermore, the author does not compare the differences of first-time mothers' methods when using online communities for social support. It is suggested that future studies can make up for the above deficiencies: Firstly, we can take rural first-time mothers as research objects and pay attention to their child raising practices in the new media environment; secondly, we can compare the differences between first-time mothers (such as stay-at-home mothers and part-time ones, mothers with high media literacy and those with low media literacy, urban mothers and rural ones) in accessing social support for child raising.

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