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# AN EXPLORATORY STUDY OF SOCIAL SUPPORT FOR HEALTH-RELATED PURPOSES ON WEIBO IN CHINA

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AN EXPLORATORY STUDY OF SOCIAL SUPPORT FOR HEALTH-  
RELATED PURPOSES ON WEIBO IN CHINA

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THESIS

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A thesis submitted in partial fulfillment of the  
requirements for the degree Master of Arts in the  
College of Communications and Information Studies  
at the University of Kentucky

By

Chen Chen

Lexington, Kentucky

Advisor: Dr. Zixue Tai, Ph.D., Associate Professor

College of Communication and Information

Lexington, Kentucky

2013

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## ABSTRACT OF THESIS

### AN EXPLORATORY STUDY OF SOCIAL SUPPORT FOR HEALTH-RELATED PURPOSES ON WEIBO IN CHINA

This study explores how people with medical concerns seek and perceive social support via Weibo—a social network site in China. The study conducts both a content analysis and an in-depth interview for a comprehensive understanding of the nature of social support on Weibo. Altogether 2548 postings and replies from four Weibo support groups—the Breast Cancer Group, the Arthritis Group, Baby Eczema Group and Children’s Health Group—were categorized into 9 types with a deductive thematic analysis; twenty participants from these four Weibo groups were recruited in the in-depth interview to explore how people seek and perceive social support from Weibo. Weibo stands out as a platform for people to exchange social support for its convenience, multiple functions, and strong ability to connect each other. Though there are some disadvantages of Weibo social support identified by Weibo users, they can, to some extent, be avoided and reduced under appropriate administration.

**KEYWORDS:** Social Support, Online Social Support, Social Network Sites, Microblogging, Weibo

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June 18th, 2013

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AN EXPLORATORY STUDY OF SOCIAL SUPPORT FOR HEALTH-  
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## CHAPTER ONE: INTRODUCTION

Social support, defined as verbal and nonverbal communication that provides emotional support, instrumental aid, information, and positive feedback as to one's importance, provides mutual aid and self-help for individuals facing various problems, many of which are health-related. The benefits of social support have been widely reported and include: positive changes in symptoms, enhanced recovery and adaptive responses to the diagnosis of illness, improved quality of life, improved decision making and increased survival time.

In recent years, the rapid expansion in Internet access and computer-mediated communication has fostered new opportunities for individuals with health-related concerns to participate in supportive communication within a network of individuals dealing with similar issues. LaCoursiere (2001) described a brief history of how online social support has evolved; however, what he did not include in his 2001 article is that the rise of the social network sites provides a new platform for social support. The present study is trying to investigate the users' experience of providing and seeking social support via Weibo, the most popular social network site in China.

There are two reasons why I focus the study on users' experience of using Weibo for social support purposes. First, as mentioned above, social network site is a new platform for people seeking and providing social support under medical context. Though researchers have paid some attention to how social network sites promote health outcome, not many studies have focused on issues of social support on social network sites under medical context. A comprehensive exploration to social support occurred on this new platform is necessary.

Second, although social support is thought to be a universal resource, cultural differences exist among different groups when seeking for or providing social support. The cultural difference in social support use provides important implications that researchers need to investigate concerning different culture groups and the intercultural interactions. Based on our knowledge, there are considerable few studies specifically focused on the social support in China, especially on support group and online social support. In the short time since Weibo burst onto the social media scene as a microblogging service in China, it has been used as a valuable tool for building the social support community of those who fight with health concerns.

In order to gain a detailed understanding of the nature of social support and people's social support experience on Weibo, I focus the study on several aspects related to online social support.

First, what messages are exchanged across social network site support groups? Explorations of message types, topics (Van Uden-Kraan, 2008; Salem, Bogat, & Beld, 1997; Klemm, 1998) and the support types (Ballentine, 2011; Buchenan, 2007; Coulson, 2005; Finn, 1999; Winzelberg, 1997; Winefield, 2006; Idriss, 2009) in online groups have been the focus of many studies. No research has been done to specifically examine the types of messages in support groups within social network sites. It is possible that there are some differences in message types on this new platform due to the unique way of participation. With a deductive thematic analysis, this present study will categorize the postings on Weibo support groups into 10 subject areas, eight of which are based on Klemm's (1998) framework, and 2 of which are added as commercial advertisement and group assembling.

Second, what are the motives and how people use social network site for social support purposes? Studies early in the 1990s on the advantages of online social support groups have answered the question why people participate in the online social support communities. In addition researchers have differentiated between two kinds of online social support participants—active users and lurkers—according to their manner of participation. Social network sites, like Weibo, are more complicated platforms. The high popularity of Weibo in China may provide additional and unique motives and usage patterns for Weibo users for social support purposes. On one hand, it integrates the traditional online support community in form of the “group”. On the other hand, every user has his/her own profile, which is publicly seen by any Weibo user. An active participant can be either active in Weibo support groups, or just in individual profiles with his or her followers. The present study will ask the participants about why and how they use social network site for social support purposes.

I focus the third aspect on the possible negative experience of seeking social support via social network site. Researchers have assumed the disadvantages of online social support, which include delayed response, digital divide, information quality and misinterpretation due to lack of visual cues. However, whether and to what extent these disadvantages really occur has been rarely studied. According to my knowledge, there is only one study conducted by Van Uden-Kraan et al. (2008) having made this effort. The authors conducted a content analysis on the postings in an online social support forum for cancer patients. According to their findings, only a very few postings contained potential disadvantages. Though the research method of content analysis is valuable, first-hand perspectives from the group participants will be even more useful to explore how they

feel about the online interactions, not only referring to the messages posted publicly, but also the messages exchanged via private interpersonal messages, which are allowed in many online social support platforms, including the Weibo platform. Therefore, in the present study, I will explore whether the participants have any unhappy experience when they use social network site for social support purposes by asking themselves instead of analyzing the postings.

Social network ties is another aspect I am focusing on in the present study.

Wellman and Wortley (1990) argued that social support provided is related more to the characteristics of relationship than to the characteristics of network member themselves. Researchers on social support often make a connection between two social relationships: the strong ties and weak ties. Though taking up a small part in one's social network, strong ties are found to provide broader support than active weaker ties, significantly more emotional aid, minor services, and companionship (Wellman & Wortley, 1990). However in some cases, a focus on weak ties may have great efficacy (Wright, 2010). It is interesting to explore how participants perceive the social support received from strong and weak ties on social network sites.

In addition, how online and offline relationships work in social support is a valuable issue discussed in social support research area. As mentioned above, some support seekers preferred support from weak ties while online, as they provided benefits such as access to different viewpoints, objective feedback, reduced risk and reduced role obligations (Wright, 2010). However, some researchers (Parks & Floyd, 1996) have questioned whether online interaction is conducive to the formation of strong ties as offline network is. Besides, it is assumed that devoting time in online support

communities may take up the time interacting with families and friends in real world, which are often valued as important social support resources. However, to those with very few real life ties or obtaining insufficient support from offline ties, online interactions may offer unique opportunities. Social network sites, to some extent, are expected to function as a bridge between the friends or families who may not have a lot of interactions offline and offer them another platform to share on how they are doing. In this case, we may ask whether using social network sites influences individual's social network size and strength of ties, and if it eventually affects the social support they perceive.

Instead of applying only one research method, either content analysis or survey study, which are most common research methods used in online social support studies, this present study will combine both content analysis and in-depth interview, which has been rarely applied in online social support studies, to explore the nature of online social support. Content analysis on the postings on Weibo support groups is used to explore what kind of messages are exchanged and can be accessed for social support seekers and providers. In addition, the study will conduct a semi-structured in-depth interview to understand the participants' experience of receiving and providing social support under the Weibo context.

## CHAPTER TWO: LITERATURE REVIEW

### **Definition of Social Support**

When experiencing a serious illness, disabling condition, or both, the individual might be impacted in some areas of his or her life: mobility, self-care, employment, communication, and social relationships (Crewe & Athelstan, 1985). Additional help and support in either short term or, long term, if the health problems persist or become permanent, is needed.

Researchers across several disciplines have long studied social support. Albrecht and Adelman (1987) provided a definition of social support, arguing that "social support refers to verbal and nonverbal communication between recipients and providers that reduces uncertainty about the situation, the self, the other, or the relationship, and functions to enhance a perception of personal control in one's experience" (p. 19).

Some researchers (Cobb, 1976; Cohen & Wills, 1985) look at social support in a more structural way, in which they define social support as support from others by whom one is loved and cared for, esteemed and valued as a part of a network of communication and mutual obligations. It may come from a spouse or companion, relatives, friends, coworkers, and community ties. Some other researchers, however, focus more on the functional aspect of social support (e.g. Oermann, 1991; House, 1981). Oermann and House both defined social support in terms of its functions as resources provided by others that can take the form of emotional support (provisions of confidant support, attachment); instrumental aid (provision of tangible support, material aid); information (provision of advice, guidance, appraisal and problem solving); and positive feedback as to one's importance, capabilities or self worth (validation, integration and feedback).

Although these four types of support can be differentiated conceptually, relationships that provide one type often also provide other types, thus making it difficult to study them empirically as separate constructs.

Furthermore, researchers (e.g. Taylor, 2011; Barrera, 1986) also commonly make a distinction between perceived and received support. Perceived support refers to a recipient's subjective evaluation on the effective help that providers will offer (or have offered) during times of need. Received support refers to specific supportive actions (e.g., advice or reassurance) offered by providers during times of need. Perceived support can often be more important than enacted support (Aneshensel, 1992; Thoits, 1995). If individuals have the feeling of being supported, many of their emotional needs are met, regardless of whether there is a difference between the perception of the support and what is actually administered. When individuals perceive emotional support, they believe that they are loved, cared for and understood by others (Thoits, 1995). Conversely, perceptions of a lack of social support lead to the feelings of isolation and loneliness (Sarason & Sarason, 1985). Perceptions of social support also have significant influence on support-seeking behaviors, and higher support-seeking behaviors have been proved to be correlated with decreased depression and distress (Coyne & Downey, 1991; Pearlin & Schooler, 1978; Ross & Mirowsky, 1989). Because perceived support seems to have a more significant impact on health than received support, scholars focus heavily on studying perceptions of support as determinants of health outcomes (e.g., Thoits, 2011).

### **Importance of Social Support under Medical Context**

A considerable amount of literature has documented either the physical or psychological benefits of receiving social support (e.g., Albrecht & Adelman, 1987;

Burleson, Albrecht, Goldsmith, & Sarason, 1994; Cohen, McGowan, Fooskas, & Rose, 1984; Cutrona, Russell, & Rose, 1986; Dean & Ensel, 1982; Dickson-Markman & Shern, 1990; Goldsmith, 1992; Lin & Dean, 1984; Lin & Ensel, 1984; Query & James, 1989). House (1987) stated twenty-five years ago that social support has “ important causal effects on health, exposure to stress, and the relationship between stress and health” (p.136). Numerous studies have found a relationship between lack of social relationships, which provides the resource of social support, and all-cause mortality (Holt-Lunstad, Smith, & Layton, 2010). Previous studies have shown that Individuals with lower levels of social support are more likely to have various kinds of disease and slower recovery, including cardiovascular disease (Uchino, 2009), inflammation and less effective immune system functioning (Uchino, 2006), more complications during pregnancy (Elsenbruch, Benson, Rucke, et al., 2007) and more functional disability and pain associated with rheumatoid arthritis (Evers, Kraaimaat, Geenen, et al., 2003). Conversely, higher rates of social support have been associated with numerous positive health outcomes, including faster recovery from coronary artery surgery (Kuli & Mahler, 1993), less susceptibility to herpes attacks (VanderPlate, Aral, & Magder, 1988), a lowered likelihood to show age-related cognitive decline (Seeman, Lusignolo, Albert, et al., 2001).

Social support also helps people reduce psychological distress (e.g., anxiety or depression) (Taylor, 2011). Social support has been found to promote psychological adjustment under chronic high stress like HIV (Turner-Cobb, Gore-Felton, Marouf, et al., 2002), rheumatoid arthritis (Goodenow; Reisine, & Grady, 1990), cancer (Penninx, Van Tilburg, Boeke, et al., 1998), stroke (Robertson & Suinn 1968) and coronary artery disease (Holahan, Moos, & Holahan, 1997). People with low social support have more

symptoms of depression and anxiety than people with high social support (Barrera, 1986; Cohen & Wills, 1986). In addition, people with low social support have higher rates of major mental disorder (e.g. social phobia, major depression disorder, eating disorder) than those with high support. (Torgrud, Walker, & Murray, 2004; Lakey & Cronin, 2008; Stice, Presnell, & Spangler, 2002; Grisset & Norvell, 1992) .

### **Social Support Groups**

As discussed above, in the structural aspect social support can come from a variety of sources, including but not limited to: family, friends, romantic partners, pets, community ties, and coworkers (Taylor, 2011). Sources of support can be informal (e.g., family and friends) or formal (e.g., healthcare providers or community organizations) (Hogan, Linden, & Najarian, 2002). Type, amount and effectiveness of social support can be expected from and depend on different sources (McLeroy, Gottlieb, & Heaney, 2001; Agneessens, Waeye, & Lievens, 2006). For example, long-term tangible assistance is most often provided by family members; short-term aid is more likely to be expected from neighbors and friends (McLeroy et al., 2001). In medical care settings, health care professionals offer more informational support, while families and friends may be the main source of emotional support for patients (Blanchard et al., 1995).

Peer support is a type of social support provided by individuals who share similar experiences and characteristics (i.e. age, gender, location, cultural, socioeconomic status). It provides a source of support that extends beyond the individual's natural or embedded social networks (such as family, friends, church members, neighbors). According to Cohen and Wills (1985), peer relationships may positively affect the individual's psychological and physical health outcomes not only through direct responses, such as

providing informational support of the disease and experience of treatment, and emotional support about the nature of the stressor and active effort to alleviate or diminish it, but also indirect responses involving social comparison. Thoits (1995) claimed that the effective provision of support is likely to stem from people who are socially similar to the support recipients and who have experienced similar stressors or situations. These characteristics enhance the “empathic understanding” of the support provider, making it more likely that the support provided is in concert with the needs and values of the recipient. Peers, as ones who embrace these characteristics, are perceived to be empathetic and understanding and are believed to be more likely to help the support seekers overcome the stigma attached to needing help.

Social support groups provide a forum for peer support, and allow the participants to share a wide range of issues and to receive mutual support from peers dealing with similar issues. In the United States such groups have proven very popular (Davison, Pennebaker, & Dickerson, 2000). Beyond the one-on-one social support within family and close friendships, social support groups provide an important social resource for individuals (Katz & Maida, 1990). By reviewing studies on social support and self-helping groups (Ayers, 1989; Boreman et al., 1982; Caplan, 1974; Fullmer & Majumder, 1991; Gottlieb, 1981; Lieberman, 1976), Braithwaite et al. (1999) found at least ten aspects of positive outcomes of participation in social support groups, including (a) sharing information such as ideas, facts, and resources; (b) engaging in dialogue to reveal multiple perspectives; (c) discussing taboo subjects; (d) being "all in the same boat" with others; (e) experiencing mutual support; (f) engaging in problem solving and rehearsing; (g) overcoming alienation and isolation; (h) engaging in catharsis; (i) taking on the role of

helper; (j) developing inspiration and hope; (k) developing social networks; and (l) assisting more people less expensively .

Since at least 1982, the Internet has provided a new venue for support groups and has become an increasingly popular tool for individuals wishing to seek information, share experiences, ask questions and provide emotional support about health issues (Turner et al., 2001; Eysenbach et al., 2004; Jayanti and Singh, 2010). Main forms of online support groups are Internet newsgroups, bulletin boards, as well as those groups established in social network sites like Facebook. In addition to overcoming the timing and location barriers, a key reason for this is that the Internet has many attributes that can help people feel more comfortable with openly expressing their problems and concerns (Hwang et al., 2010; Wu et al., 2010). Weibo, as one of the largest and most popular social network sites in China, has provided a broad platform for support seekers to organize and operate their own support group via Weibo Group. I will explore how these self-organized social support groups are processed by looking at the messages posted in Weibo group, and how group member perceive the support within Weibo Groups via a in-depth interview.

### **Development of Social Support Online**

The Internet has proven to be a useful forum and platform for the proliferation of online support groups. The Internet has not only increasingly served as a tool to locate and seek professional help, but also as a virtual space for patients to collectively interact.

Finfgeld (2000) contends that online support groups exist in two forms. The first is a comprehensive version, which offers a variety of services such as an interactive support group, encyclopedic-type reference materials, ask an expert and assessment

services, decision analysis and planning exercises, and individually tailored behavior modification guidelines. These systems have been developed, in a large part, by researchers to explore how computers can expand or enhance current health care services. For this reason, group membership is dictated by sample selection criteria, and individuals are encouraged to participate until the completion of the study. The second type of online service simply consists of an interactive support group. These groups have been developed by professionals and laypersons. Their primary purpose is to provide a forum in which individuals with similar concerns can support each other, and they may or may not be facilitated by a trained leader. Membership is largely voluntary, and individuals generally come and go as they please. No formal group guidelines usually exist; however, system operators frequently distribute basic netiquette guidelines when individuals sign on.

LaCoursiere (2001) described a brief history of how online social support has evolved. Prior to the advent of the Internet, online social support communities had been initially formed on dial-up bulletin board services. Messages seeking and giving support are communicated via local operators. Then the development of online commercial services (e.g. Prodigy, CompuServe, and America Online) provided a platform of support groups and allowed a larger number of people facing similar concerns to connect and communicate electronically. Starting in the mid-1990s, the use of listservs, and e-mail based discussion lists based on health conditions appeared. At the same time, further online communities in the form of discussion boards and chat room services had rapidly developed with the advent the time of WWW. LaCoursiere (2001) highlighted the revolution, which these online support communities have brought in changing the ways

with which people used to seek and provide support from one another in both qualitative and quantitative aspects.

However, what LaCoursiere did not include in his 2001 article is that the rise of the social network sites, represented by Facebook launched in 2004 and Twitter launched in 2006, provides a new platform for social support groups, which may potentially involve more participants and engage more communications and interaction, and for individuals to construct their own online social support networks. Some researchers (e.g. Ballentine & Stephenson, 2011; Murthy, Gross, & Oloiveira, 2011) have started paying attention to this platform, while many issues and topics that have or have not been discussed in traditional social support forms and previous online social support forms should be examined in relation to social media.

Sina Weibo, as the research target and platform in my study, was launched by Sina Corporation in August 2009, and has 503 million registered users as of the end of 2012 (<http://finance.sina.com/bg/tech/sinacn/20130430/1659757497.html>). “Weibo” (微博) in Chinese stands for microblog, and apart from Sina Weibo, there are other similar platforms, such as Tencent Weibo, Sohu Weibo. However due to the popularity, Weibo is primarily used to identify with Sina Weibo. Similar to Twitter, Weibo users can post with a 140-character limit and they can follow other users to make their posts in users’ own timeline. Users can reply to or re-post with others’ posts; however, unlike Twitter, Weibo has threaded comments, which make the entire feedback tracking process easier. They can also exchange private messages. In addition, Weibo users can insert images and videos directly into their posts. The media is thumbnailed and will expand when clicked on instead of opening up a new page as in Twitter. Besides, Weibo has an embedded App

named Weibo Group (微群). Weibo users can find groups that interest them through searching or visiting the Weibo Group page. To post or reply a post in the group, one needs to join as a group member. Group administrators can invite or approve Weibo users joining the group, and they have the right to remove a member from the group.

### **Types of Online Social Support**

Exploration of message types, topics (Van Uden-Kraan, 2008; Salem et al., 1997; Klemm, 1998) and support types (Ballentine, 2011; Buchenan, 2007; Coulson, 2005; Finn, 1999; Winzelberg, 1997; Winefield, 2006; Idriss, 2009) in online groups has been well researched.

In a large part of this body of research, scholars (Finn, 1999; Finn, 2002; Winzelberg, 1997; Coulson, 2005) developed the categories derived from typologies used and tested in traditional social support group, or in other related literature, like help mechanism and group working. Fullmer and Walls (1994) examined the content of health-related communication in five online disability-related groups using 17 subject-matter categories and associated key words. Barbee and Cunningham (1995) used a comprehensive coding system for "real time" interaction based on 26 subcategories. Cutrona and Suhr (1992) used a five-category system for coding social support: (1) information support, (2) tangible assistance, (3) esteem support, (4) network support, and (5) emotional support. Winzelberg (1997) analyzed an online social support group for individuals with eating disorder and he created the categories based on the premise that communication on ESG would follow similar patterns as face-to-face groups where emotional support, information, and self-disclosure are common themes of communication. Finn (1999, 2002) coded online social support into categories derived

from the therapeutic self-help group mechanisms found in the group work literature (Caplan, 1974; Katz & Maida, 1990; Lieberman, 1976; Riessman, 1965) and on the social support categories of Cutrona and Suhr (1992). The social support typology created by Cutrona and Suhr (1992) has also been widely used in other studies in online social support, such as Braithwaite (1999) and Coulson (2005).

In addition to borrowing or inheriting from the typology produced and applied in traditional social support group (e.g., Cutrona et al., 1992; Fullmer et al., 1994; Barbee et al., 1995), researchers have also added some items, which they think are unique characteristics in online interaction (e.g., Braithwaite, 1999; Salem, 1997). Salem et al. (1997) include “humor” in his category system since the authors believe it is a frequent and special interaction style online. Braithwaite (1999) specifically analyzed support messages found in (a) humor, (b) nonverbal cues, (c) narratives, and (d) signature lines, which are considered special features of mediated messages.

Some other researchers use the content analysis method directly to categorize messages and topics found in a certain online support group (Klemm, 1998; Weinberg et al., 1995). Klemm (1998) analyzed 300 messages posted on an online disability social support group and eight categories of responses were identified: (1) information giving/seeking; (2) personal opinions; (3) encouragement/support;(4) personal experience; (5) thanks; (6) humor; (7) prayer; and (8) miscellaneous. Weinberg et al. (1995) created a computer support group of breast cancer and observed the participation of all the 6 women group members in the group. Via content analysis, the authors identified 11 main topics of messages. This was the first attempt to use a bulletin board to create a computer support group comparable in size to a face-to-face support group.

These typologies, developed either by borrowing from existing traditional social support coding, or by directly analyzing content of online social support group messages, are applied widely in later studies and offer a very rich resource of study tools for research in online social support (Van Uden-Kraan,2008; White et al., 2000). The most basic use is applying the typology to examine the content and themes in a specific online social support group (e.g., White et al., 2000). For example, Klemm (1999) examined gender difference in using online cancer support group, by differentiating the line-by-line analysis of postings on prostate, breast and other online cancer support groups.

### **Advantages and Disadvantages of Online Social Support**

Studies in the early 1990s, which marks the starting age of online social support groups, focused on the potential advantages of this kind of new medium compared to traditional face-to-face support groups. Flexible hours and locations are widely acknowledged as some of the most important advantages. The Internet allows group members to send, and receive messages at any time from almost anywhere that the Internet can be accessed. (Finn, 1995, 1996, 1999; Weinberg et al.,1995). Without space and location constraints, there is little limitation on the number of participants, and where they are from (Finn, 1999; Winzelberg, 1997). Especially for some of the uncommon diseases, online support group is a more efficient way to involve participants than face-to-face support group because it overcomes the geographic barriers (White & Dorman, 2001).

Anonymity online is also a highly touted advantage, especially for people with stigmatizing disorders. It increases the possibility of self-disclosure, and allows discussion on possibly sensitive and embarrassing topic. (Klemm et al.,1998; Madara,

1997; Winzelberg, 1997). In addition, sociodemographic factors such as age, gender, racial or ethnic identity are diminished (Finn, 1996; Klemm et al., 1998; Madara, 1997). Online support group can also avoid exposure of weight, disability, the visible effects treatment like chemotherapy, or late stages of disfiguring diseases, which protect sufferers, and may be beneficial to other group members either (Davison et al., 2000; Finfgeld, 2000).

Refining from some literature (Finn, 1996; Klemm et al., 1998; Winzelberg, 1997; Finn & Lavitt, 1994; Weinberg et al. 1995; Schneider & Tooley, 1986; Sharf, 1997), Finfgeld (2000) elaborates the benefits of online social support in a more therapeutic perspective. First, online group allows participants to lurk until they feel comfortable with the environment and then to post messages (Finn, 1996; Klemm et al., 1998; Winzelberg, 1997). Second, writing rather than face-to-face blurting out encourages the participants to think more and abstain from sending messages with impulsive, irrational and destructive emotions (Finn & Lavitt, 1994; Weinberg et al. 1995). Third, support group interactions via the Internet could be permanently recorded and easily archived or printed out, which help the participants spend time thoughtfully reflecting the interactions (Schneider & Tooley, 1986; Sharf, 1997).

However, disadvantages of online social support are also noticed, and some of the characteristics of online social support considered as beneficial also have dark sides. Asynchronous communication is convenient, but lag time may exist between the moment an individual posts a message and receives a response, and can cause problems to those distressed people (Weinberg et al., 1995; Winzelberg, 1997). Digital divide is still a problem that researchers are most concerned about (Galinsky et al., 1997; Madara, 1997).

Though demographic factors seem to be diminished, socioeconomic status is still closely related to personal computer ownership and accessibility to the Internet (Vanderkay & Blumenthal, 1997; Wangberg et al., 2007). In addition, reading, writing and computer skills are required to use online social support (Klemm et al., 1998). Thus the diversity of online support groups may be lower than assumed (Finn, 1996; Klemm et al., 1998; Miller & Gergen, 1998; Schneider & Tooley, 1986). Lack of visual cues, as mentioned before, can minimize the influence of factors such as age, gender, racial or ethnic identity; however, it may lead to misinterpretation by merely reading messages online. Absence of visual or aural cues may make it more difficult to detect the nuances of communication. To overcome this disadvantage, paralinguistic cues composed of brackets, emoticons, capitalization is used by some of the online support group members (Finn & Lavitt, 1994). Due to the low threshold of membership and high level of anonymity, researchers expressed concern about issues regarding uninhibited, aggressive, and socially inappropriate remarks or flaming (Finn, 1996; Schneider & Tooley, 1986). In addition, information accuracy is another problem attracting researchers' attention. Since some of the online support groups are not supervised by health care professionals, more inaccurate, mistaken and damaging messages may be shared and spread out by members (Winzelberg, 1997; Dikerson et al., 2000).

However, Finfgeld (2000) suggested that some of these potential disadvantages need to be viewed within a specific group, and are possible to be avoided and controlled. Van Uden-Kraan et al. (2008) first explored to what extent some of the potential disadvantages occur within an online social support group, and according to their research, only a very few postings contained potential disadvantages. Their studies show

that usually a message containing a question received response within a reasonable period of time. Negative emotions and flaming were not found frequently in the postings and this finding is in accordance with the study of Finn (1999). As to the quality of messages posted online, Van Uden-Kraan et al. (2008) found that actually very little medical information was exchanged in the targeted online social support group, instead more members just described what the illnesses make them feel and what to expect next. None of the messages containing actual medical information was found dangerous. In addition, the lack of visual cues seems not a problem in this study, because group members were quite adapt to using the emoticons to cope with possible misinterpretation.

Despite the potential disadvantages of online social support, researchers also have noticed some problematic social support interactions in general. Revenson et al. (1991) underline the fact that presumably supportive behaviors can be perceived as helpful or not, or even harmful. Four types of problematic support were assessed in that study: providing information or suggestion that is unhelpful or upsetting; hard to understand the recipient's feeling; trying to change how the recipient is coping with stress into the way that he or she dislikes; annoyed when the recipient does not accept the suggestion. The study conducted by Revenson et al. (1991) was focused on the quality of social support from intimate and close interpersonal relations; however, when interactions occur between less close friends or even strangers online, the situation might be more complicated. Under the Weibo context, support seekers may have communication with different people who are intended or unintended to support or negatively affect them. It will be valuable to explore on the Weibo platform, to what extent, support seekers perceive the interactions as helpful or problematic.

Van Uden-Kraan et al. (2008) provide us with a comprehensive understanding on whether or not the potential disadvantage really occurs in online social support group by analyzing online postings; nevertheless, there is still some limitation with their study. Though the research method of content analysis is valuable, a direct interview with the group participants will be even more useful to explore how they feel about the online interactions, not only referring to the messages posted publicly, but also the messages exchanged via private interpersonal messages, which are allowed in many online social support platforms, including Weibo platform.

### **Social Ties and Social Support**

Researchers on social support often make a distinction between two social relationships when referring to the sources of social support: the strong ties and weak ties. Wellman & Wortley (1990) argued that the kinds of support provided are related more to the characteristics of relationship than to the characteristics of network member themselves. Strength of ties is one of the most important aspects to label the characteristics of relationships. Cattell (2001) defined strong ties as strong but relatively scarce relationship between intimate or generally similar people. According to Wellman and Wortley (1990), strong ties are characterized by intimacy (socially close intimacy), voluntariness (interacting with a network member voluntarily rather than belonging to the same social institution), and multiplicity (interacting with a network member in multiple social contexts). Granovetter (1973) might be the first one highlighting the “strength of weak ties,” and he defined weak ties as weak but richful relationships between generally dissimilar people but who share a common interest.

Anderson and Speed (2010) describe strong ties as “bonding” ties providing more tangible and emotional support, and weak ties as “bridging” ties supporting access to novel information or opportunities. (p. 4) Though taking up a small part in one’s social network, strong ties are found to provide broader support than active weaker ties, significantly more emotional aid, minor services, and companionship (Wellman and Wortley, 1990). However in some cases, a focus on weak ties may have great efficacy. For example, in a study on the perceived stress of participants in a health-related online support group, Wright (2010) found that participants preferred support from weak ties while online, as they provided benefits such as access to different viewpoints, objective feedback, reduced risk and reduced role obligations. He also pointed out that due to the sensitivity of health related issues, strong ties might be a barrier to gain social support.

In addition, how online and offline relationships work in social support is a valuable issue discussed in social support research area. As mentioned above, some support seekers preferred support from weak ties while online, as they provided benefits such as access to different viewpoints, objective feedback, reduced risk and reduced role obligations (Wright, 2010). However, some researchers (Parks & Floyd, 1996) have questioned whether online interaction is conducive to the formation of strong ties as offline network is. Besides, it is assumed that devoting time in online support communities may take up the time interacting with families and friends in real world, which are often valued as important social support resource. However, to those with very few real life ties or obtaining insufficient support from offline ties, online interactions may offer unique opportunities.

The social network site Weibo, as the subject of this present study, is possible to provide support-seeking people with social support from various social ties. This study will try to explore how Weibo influence the users' social networking and how Weibo influence the users' social support perceived online and off-line?

### **Active Online Social Support Users vs. Lurkers**

People can be involved in online social support in two ways. Those who actively post on online social support community are identified as posters, while those who passively receive postings written by others without posting by themselves are defined as lurkers. Researchers are more likely to focus on the use of online social support by active users, since study materials (postings on online social support community) and study subjects are more convenient to be reached. Van Uden-Kraan et al. (2008) indicate that lurkers do not complete the questionnaire significantly more often than posters. However, as reported by Nonnecke and Preece (2000), in health-related support groups there are on average 45.5% of lurkers. Further study on this group is important.

In recent years, some of the researchers begin to attach considerable importance to the study on lurkers using online social support. Van Uden-Kraan et al. (2008) found that both posters and lurkers are in some way empowered by participating in online communities. They indicated that lurkers did not differ significantly from posters with regard to most empowering outcomes, such as "being better informed," "feeling more confident in the relationship with their physician," "improved acceptance of the disease," "feeling more confident about the treatment," "enhanced self-esteem," and "increased optimism and control." However, lurkers and posters did differ with regard to the empowering outcome of "enhanced social well-being." Lurkers reported lower means in

rise in the number of social contacts or a decrease in loneliness by participating in an online support group. Setoyama et al. (2011) explored the differences in peer support received by lurkers and posters in Japanese online breast cancer communities. They found posters felt they received more emotional support than lurkers, and they derive benefits, like expressing emotions, satisfaction of providing help, from posting on online communities.

Some researchers identified the motives and reasons that lurkers lurk instead of actively posting online, though most of these studies are looking at online communities in which topics were discussed ranging from government to organizations, from health to e-commerce. Reasons mentioned include privacy concerns, lack of technological skills, poor fit with the group, unfavorable impression with group dynamics (Preece et al., 2004). Besides, some people feel they do not need to post, and lurking in online community has met their need of receiving information (Van Uden-Kraan, 2008). However, an explanation of lurking as free ride (i.e., using common good without contributing) presents it in a negative light. In addition, Van Uden-Kraan et al. (2008) mentioned respect for others' time and attention sometimes leads to lurking instead of requesting for information directly, which echoes with the oriental view of social support in Kim et al.'s study (2008).

Rather than other online social support communities, Weibo is a more complicated platform, which may provide more means for supporting seekers to participate. On one hand, it integrates the traditional online support community in the form of the "group". Users' activity in the group could be applied as a measurement to decide whether he/she is an active poster or lurker. On the other hand, every user has

his/her own profile, which is publicly seen by any Weibo user. The user could post any content, including support seeking or providing on the personal profile, along with the @ function to mention, contact and remind the person they want to read the information. In this way, they may be regarded as active users as well. In addition, users who do not post or reply in public groups, may still respond to messages posted on others' profile. Hopefully, in the current study, I am examining the motives and experience of users actively posting or responding on public groups, or on personal profiles, or just lurking.

### **Research Methodology in Online Social Support Studies**

A large part of studies on online social support conduct content analysis on messages exchanged in mail group or posted on discussion forums. Often used along with deductive thematic analysis, content analysis is applied to study the types of social support that occurred online or study communicational style of people seeking and providing social support online. In some studies, demographic data offered spontaneously of the message sender are also collected to determine the difference of using online social support between people of different gender, ages, and races. Studies applying content analysis differ in specific means of data collecting. Brennan (1992) evaluated one week's worth of postings, while Winzelberg (1997) examined all postings from a three-month period. Klemm and colleagues (1998) chose four consecutive days in June and five consecutive days in January. Weinberg et al. (1996) looked at postings for three months in a small private computer group. In addition to online observation, Sharf (1997) even acted as a participant and applied community participation as the research approach in his study. Instead of merely "lurking," the author occasionally posted messages to support the observation and qualitatively describe and analyze research issues.

Though content analysis is a valuable and more convenient approach in online social support research, researchers suggested not all aspects can be examined by means of content analysis. In Van Uden-Kraan et al.'s (2008) study on disadvantages in online social support groups, the authors inferred the findings based on a content analysis of the postings. However, Van Uden-Kraan et al. (2008) suggest further study should obtain information directly from the users to explore whether they experience any pitfalls using online social support. Rier (2007) analyzed the discussion in online social support groups to study the moral dilemmas in living with HIV/AIDS debated in the groups. Consistent with Van Uden-Kraan et al. (2008), Rier (2007) suggested further studies might employ more direct methods such as surveys (online or otherwise) or semi-structured interviews to determine how online discussions affect posters and lurking spectators.

One methodology often applied directly collecting data from participants is quantitative survey study. Researchers recruit participants from online social support groups, and conduct questionnaire surveys among the participants. This approach is often used to explore the online social support users' demographic characteristics, using patterns, disease characteristics, and perceived social support. Some existing instruments used to measure general social support or support networks are still applied in online social support study; however, new instruments that could measure social support online are developed. Besides, effects of using online social support such as self-reported health outcomes and empowerment are explored in some survey questionnaire studies.

Another research method, which directly collects information from online social support users, is in-depth qualitative interview. In-depth qualitative interview, as one of the key naturalistic research methods, can "explore in detail the experience, motives, and

opinions of others and learn to see the world from perspectives other than their own” (Herber et al., 2011, p. 3). Bartlett and Coulson (2011) included some qualitative data in their research result regarding how membership of an online social support group had affected relationship with users’ health professional. The authors suggested that further qualitative research would be needed to investigate the details of this effect further.

Shaw et al. (2000) conducted an in-depth interview of twelve participants to study how women with breast cancer describe their experiences of giving and receiving social support in a computer mediated context. Instead of focusing on life threatening disease, there are other studies on online social support for non-life threatening disease. Buchana et al. (2007) interviewed 143 participants who accessed a Dental Fear Central group to explore the context through which dentally anxious individuals choose to access an online support group and their online experiences. Coulson and Knibb (2007) resorted to a similar methodology in examining the role of online social support in coping with food allergy.

Researchers (Shaw et al., 2000, Buchanan & Coulson, 2007; Coulson & Knibb, 2007) often apply phenomenological thematic analysis to interpret the responses in the interviews. Phenomenological research seeks for a richer understanding of, and insight into, the human experiences as it is lived (Thibodeau & McRae, 1997; Thompson, Locander, & Pollio, 1989). It “grants primacy to the life world of the individual while also recognizing that these lived meanings exist in relation to a culturally constituted realm of language, established social conventions, and interpersonal relationships” (Thompson, 1996, p. 391). It means that phenomenological research approach is to understand a phenomenon from the perspective of the person experiencing it, and it

includes a consideration of the context in which the phenomenon occurs. In online social support research, the analysis sought to understand the participants' experience of giving and providing social support under an online context.

Most studies on online social support have been focused on the platform of mail groups and discussion boards, while according to my knowledge, research on social network site as a new platform for social support is limited, especially for health-related purposes.

Ballentine and Stephenson (2011) studied social support in online weight loss networks. The study aims to explore how users of Facebook who are focused on weight loss give and/or receive social support to/from other users. The authors took a quantitative approach and recruited the study subjects from the Weight Watchers Facebook page. However, the study failed to treat Facebook as a potential unique social support platform different from other online platforms, e.g. mail groups, discussion board, and failed to explore the new features Facebook may bring to online social support.

Another study focused on Facebook as a social support platform is conducted by Bender et al. (2011). The authors explore the purpose, use, and creators of Facebook groups related to breast cancer. They extracted information from Facebook groups related to breast cancer and determined the purpose, use and creators of Facebook groups based on content analysis. The study indicates that Facebook groups are being used by a considerable number of people affected by breast cancer for fundraising and awareness purposes, while to a lesser extent supportive care, unlike most disease-specific online communities. However, the findings should not be interpreted to imply that Facebook is

rarely used for supportive care purposes, given that several ways to solicit or provide support on Facebook were not examined in this study, including private messages, wall posts on personal profile pages, and status updates. Instead of focusing on Facebook groups, the current study will attach more importance to the social network website users and to explore their experience with using the website to exchange support for health-related purposes.

Apart from Facebook, Twitter as another social networking site and micro-blogging service offers potential for health promotion. However, according to my knowledge, though there are some researchers expressing their interest in Twitter promoting health, few studies relate Twitter with social support for health purposes. Scanfeld et al. (2011) studied dissemination of health information on antibiotics through Twitter and confirmed that social media offer means of information sharing. Murthy et al. (2011) discuss the development of methods to visualize cancer-related social media networks and information flow on them using real-time data from the social media website Twitter and how these networks influence health outcomes by examining responses to specific health messages. Prochaska et al. (2011) identified 153 active Twitter quit smoking accounts dating back to 2007 and examined account activities for the month of August 2010, and found many of the accounts were not active and tweet content was largely inconsistent with clinical guidelines.

### **Significance of the Current Study**

This study will be an important addition to the communication literature for three key reasons. The first reason has already been discussed in the literature review: the rise of social network sites provides a new platform for social support groups, which may

potentially involve more participants and engage more communications and interaction, and for individuals to construct their own online social support networks. Some researchers (e.g. Ballentine & Stephenson, 2011; Murthy, Gross, & Oloiveira, 2011) have started paying attention to this platform, while more issues and topics that have or have not been discussed in traditional social support forms and previous online social support forms should be investigated.

The second reason is related to the methodology applied in this area of research. In-depth interview study is less used in online social support research, compared to the content analysis and survey methods; however, it is a useful and valuable research method to directly collect information from the participants and explore their first-hand experience and how they feel about their experience. This present study, by asking directly Weibo users can offer a detailed understanding of the social support provided and perceived on this social network site in China.

The third reason is cross-cultural differences, which have not been mentioned in the above literature review. Although social support is thought to be a universal presence, cultural differences exist among different groups when seeking for or providing social support. A number of studies have examined factors that affect individuals' seeking of social support as well as its effectiveness; however, most explorations have adopted a primarily Western perspective, and relatively fewer studies have considered cultural differences in the use and effect of social support. By comparing Asians, Asian Americans, and European Americans, some studies (Hashimoto, Imada & Kitayama, 2007; Kim, Sherman, Ko, & Taylor, 2006; Sasaki & Kim, 2010; Taylor et al., 2004) have demonstrated cultural differences in people's willingness to use social support. Kim and

her colleagues (2008) reviewed the related studies and state that Asians and Asian Americans are less likely to seek social support than European Americans. Asians and Asian Americans are more likely to use and benefit from forms of support that do not involve explicit disclosure of personal stressful events and feelings of distress.

Researchers (Kim, Sherman & Taylor, 2008) argue that cultural experiences shared by Asians and Asian Americans underlie the tendency to not seek social support. Considerable cultural differences in how people view the self and relationships with others are used to explain why Asians and Asian Americans are less likely to seek social support. In collectivistic cultures, such as in many parts of Asia, an individual views the self as interdependent, and values group goals as primary while personal needs as secondary. In these cultures, relationships are considered less voluntary and a more given. The model of self-view and relationships implies the intention people use social support, the mode and the effectiveness of social support they seek. Influenced by the collectivistic culture, people may be more reluctant to share their problems with and seek for support from others, and they may regard it as a burden to their social networks.

The cultural differences in social support use provide important implications that researchers need to address regarding different culture groups and intercultural interactions. Besides, based on my review of the literature, there is considerable little research specifically focusing on the social support in China, especially on support groups and online social support. This current study is intended to explore the nature of online social support used by Chinese people. In addition to borrowing the Western perspective on social support, explorations of social support under Chinese cultural background are needed and expected to help us understand the nature of social support

sought, received and provided among Chinese people, and possibly to enhance the effectiveness of social support in China.

### **Research Questions**

Based on the literature review, I proposed the research questions in my study:

RQ1a. Why do people choose Weibo as the platform to seek and provide social support under medical context?

RQ1b. How do they use Weibo to seek and provide social support?

RQ2. What kinds of messages are communicated in Weibo social support groups?

RQ3a. What disadvantages or negative experience, if any, do users report in social support on Weibo?

RQ3b. Is there any way to avoid or control the disadvantages or negative experience?

RQ4a. How does Weibo influence the users' social networking?

RQ4b. How does Weibo influence the users' social support perceived online and off-line?

## CHAPTER THREE: METHODS

The present study conducts both a content analysis and an in-depth interview for a comprehensive understanding of the nature of social support sought, perceived and provided among Chinese people via the social network site Weibo.

### **Sample and Procedures**

#### **In-depth Interview**

To answer Research Question 1a, 1b, 3a, 3b, and 4, I applied an in-depth interview to group members who join the Breast Cancer, Baby Eczema, Children's Health and Arthritis Weibo groups selected. Subjects were recruited via an IRB-approved procedure. An invitation with general information about the study was posted in the Weibo groups, and the post provided with a hyperlink to a web-page which provided further information concerning the nature of the study and their rights as a participant in the research process. During the data-collecting period (Apr.2-Apr.16, 2013), twenty-two group members contacted the researcher via Weibo message to set a time for the in-depth interview. Among them, there were 11 from the Breast Cancer Group, 3 from the Children's Health Group, 1 from the Baby Eczema Group, and 7 from the Arthritis Group. An IRB-approved semi-structured interview was carried on with each participant via online chat tool QQ. Two participants, one from the Breast Cancer Group and one from the Arthritis Group quitted during the interview. Altogether I collect data from twenty interviewees. Each interview lasted for 20 to 50 minutes and all transcripts were saved.

To answer RQ 1a and 1b, participants were asked these questions:

1. When did you sign up on Weibo?

2. When did you join this Weibo group? or When did you use Weibo for social support purpose?

3. What makes you consider or decide to use Weibo for social support purposes?

4. Have you ever participated in a face-to-face social support group?

If yes, what is different from participating in a Weibo support group?

If no, why do you choose Weibo as your social support source and platform?

5. Have you ever sought social support on other online platform?

6. How do you use Weibo for social support purposes?

6a. Do you post frequently on a Weibo group or prefer lurking?

6b. Do you post support seeking and/or providing messages on your own profile?

6c. Do you use Weibo message to interact with other users for social support purposes?

To answer RQ3a and 3b, participants were asked these questions:

7. Do you think you always receive useful and helpful social support from Weibo?

8. Did you ever have any unhappy experience when seeking and/or providing social support on Weibo?

9. Do you think these disadvantages or unhappy experience can be avoided or reduced?

To answer RQ4a and 4b, participants were asked these questions:

10. How does seeking support on Weibo influence your social networking size?

11. How would you describe the strength of ties you have on Weibo in general and for social support purpose specifically? Do you have frequent interactions with them and what kinds of topics do you discuss on Weibo?

12. How do different Weibo friends support you?

13. How does using Weibo influence your communication with and social support gained from your offline network?

### **Content Analysis**

To answer Research Question 2, I applied a content analysis to the postings on Weibo groups. I focused the study on Weibo groups of breast cancer, arthritis, baby eczema and children's health. I have chosen to explore these four groups because of the contrast between the illnesses (life threatening, chronic non-life threatening, minor illness). I used the platform's built-in search engine and the keyword breast cancer (乳腺癌 in Chinese), children's health (儿童 in Chinese), baby eczema (婴儿湿疹 in Chinese) and arthritis (关节炎 in Chinese). I restricted the analysis to the four Weibo groups with highest postings (1313 in the breast cancer group, 950 in the children's health group, 480 in baby eczema group and 573 in the arthritis group) that are related to these medical concerns, operated in Chinese, and publicly available to anyone with a Weibo account to view and join. I downloaded the postings in the first three months since each group was established (breast cancer group: September 24, 2011- December 23, 2011; Baby Eczema Group: October 25, 2011-January 24, 2012; Children's Health Group: March 4, 2011-July3, 2012; Arthritis Group: January 20, 2011- April 19, 2011), and all postings in the last three months of 2012. In total, I downloaded 353 postings and 1088 replies from the

Breast Cancer Group, 217 postings and 78 replies from the Baby Eczema Group, 230 postings and 276 replies from the Children's Health Group and 93 postings and 213 replies from the Arthritis Group.

A deductive thematic analysis of messages posted in these four groups was undertaken to identify the message types. Messages were coded for any type of category that was included in the content of the message, thus more than one category could be present in one message. A coding manual, based on the research by Klemm et al. (1999) who conducted an earlier content analysis of an online colon cancer support group, was devised consisting of 10 categories of support. "Information giving/seeking", "encouragement/support", "personal experience", "personal opinion", "prayer", "thanks", and "humor" were taken from Klemm et al. (1999) and "commercial" and "group assembling" were added in the current study. Instead of "miscellaneous" named by Klemm et al. (1999), "others" is used to categorize any other topics that do not match any of the nine categories.

All messages were categorized according to the following 10 subject areas:

- Information giving/information seeking

This category contains questions and information about diagnosis, treatment, medications, resources, and research.

- Encouragement/support

This category contains expressions of understanding and compassion, such as "I understand your feeling" ("我能理解你的感觉") "hope you will get better" ("希望你能够好起来") "don't give up hope" ("别灰心").

- Personal experience

Personal experience is hands-on knowledge about the disease development, treatment decision and caregiving experience. For example, “ I am now in the second round of chemotherapy and I feel unwell compared to the first round” (我现在在进行第二次化疗, 比第一次感觉难受”), “I tried bee therapy, no better” (“我试过蜂疗, 效果不明显”)

- Personal opinion

This category is individual statement of personal belief and suggestion. Postings beginning with "I think," "I feel," or "it's my belief" can be identified into this category. For example, “I think you should ask your doctor” (“我觉得你还是得去看医生“). Sometimes, these words can be omitted, but the meanings stay the same. “This book is helpful for us to understand breast cancer” (“这本书可以帮助我们认识乳腺癌”).

- Prayer

Posts of this category usually regard religions or "otherworldly" intercession, for example, “Buddha bless us!” (“佛祖保佑我们”)

- Thanks

People show appreciation usually in response to requests for help or information

- Humor

This category contains jokes, amusing stories, personal anecdotes

- Group Assembling

Posts regarding group activities, events, welcome messages, new member self-introductions are categorized into this type.

- Commercial

Messages of this type are usually posted by a commercial account and contain the specific brand name and product name. The commercial messages are divided into topic related commercials and non-related commercials. Topic related commercials are messages marketing treatment, especially medication. Non-related commercials are nothing about the medical concerns.

- Others

Any other messages that do not match above types are categorized as other.

Each message was analyzed by me for all relevant subjects on a posting-by-posting (rather than line-by-line) basis. Many of the messages contained multiple topics and a posting could be assigned to more than one category. Each of the 939 messages and 1655 replies was read and categorized by the same researcher to ensure rater reliability. A second researcher independently corroborated the postings and category assignments. Thirty percent of the messages and replies were coded for reliability using Cohen's (1960) kappa. Intercoder reliability percent agreement of type of messages was 95.2% ( $k=0.924$ ).

## CHAPTER FOUR: FINDINGS

### **Why and How People Seek Social Support on Weibo**

Findings in this part answer Research Questions 2a and 2b about why and how people seek social support from Weibo. People log on Weibo to communicate with peers, professionals, and other friends, when one cannot obtain enough support from family members or other close ties, who do not truly understand the stress the patient is suffering. Even if they can get sufficient tangible and emotional support from their family members, Chinese people quite care about the stresses they bring to the families, and try to avoid or reduce them. Therefore they need other resources for support. However, many Chinese people lack in the resources of face-to-face group support. Many people do not know where and how they can join a face-to-face support group. In addition, due to some drawbacks of face-to-face support groups in China, they can hardly satisfy people's needs for long-term and deep social support. Therefore Weibo stands out for its convenience and broad connections. Besides, rather than other online forums, people post on their own Weibo profile about their feelings and experiences of the disease just for recording, and self-expression. However it may change when they find Weibo also help them connect with each other, and they may join the discussions and interactions later.

Weibo is used in various ways to provide social support. Observations satisfy the needs for getting information; however, sometimes people choose to observe because they do not know what to post or they do not have the skills to type. They may turn into active users when they get familiar with the Weibo platform or get the typing skills. Active users seek social support from Weibo in many ways. Weibo support group is a highlighted platform for people to make acquaintance with others with similar medical

concern, inquire answers from multiple viewpoints, and initiate interaction among group members on either diagnosis and treatment, or emotional expression. People with medical concerns also obtain social support from professionals, other patients and friends on their own Weibo profile or following others' Weibo profile. By following the accounts of people with similar medical concerns, they can have an initial understanding on one's experience, attitude, and feelings of living with a certain disease. It makes people with similar medical concerns get close to each other, since it is not only a name. Besides Weibo Group and Weibo Profile, Weibo message is a channel conveying more private conversation between people seeking or providing social support.

### **Seeking Support from Weibo Over Family Members**

Past researchers have discussed why people with medical concerns seek social support from peers over family members, relatives, and close friends. Falke and Taylor (1993) indicated that patients reported that interactions with close family members brought more stress and the family did not truly understand the suffering experience of patients. Meanwhile, family members and close friends sometimes feel uncertain about what they should or should not discuss with the patients (DiMatteo & Hays, 1981).

Reports from the interviewees participating in the current study are to some extent consistent with the past research. Family members can provide adequate tangible support, but may ignore the emotional support. The following excerpt illustrates the concern that family members do not understand the long-term stresses of a 24-year old female patient with rheumatoid arthritis (AR 5):

我很少和家人谈有关病情的内容。我很小就得了这个病，那时候他们不愿意和我谈，因为我还很小也不懂，到现在他们也已经习惯不和我说病情的事了。他们在饮食起居上很照顾我，但他们不知道其实我很想了解我的病情，我也很

担心我的类风湿会不会越来越严重，但他们觉得我只要现在有他们照顾就够了。其实他们也不是很懂医疗方面的知识，他们可能都不知道类风湿最后很有可能残疾，而我最担心的就是这点。

I rarely talk about the disease with my family. I have been living with this disease since I was little; they didn't want to talk about it because I was too young to understand it. And now they have been used to not talking about it. They don't know actually I indeed want to know about the disease and my situation. I am worried about whether my situation will get worse. However they think they can take care of me and that's enough. In addition, they themselves don't have enough medical knowledge, they may even not know that rheumatoid arthritis can result in disability, which I most worry about.

In addition, the stories of people who shared their motivations for using Weibo for social support purposes revealed that Chinese people with medical concerns care about the stress they bring to families, and try to avoid or reduce them. Some of the patients state that though they can obtain sufficient support from their family members, either in the form of tangible support or emotional support, they still crave social support from people with similar experiences for a more open discussion about the disease. For example, a 38-year old single mother with breast cancer turns to Weibo for seeking social support because she needs to hide her fear from her family:

我不想他们担心我。女儿还小，还不懂这些，父母年纪大了，也承受不了。不想在他们面前表现出我害怕。可我也不想窝著不说，所以我就会到微博上和病友们聊聊，跟他们说说我的担心。

I don't want them to worry me. My daughter is too young to understand these, my parent are too old to bear these. I don't want to show my fear in front of them, but I need some place to express it, so I log on Weibo to chat with other patients and discuss my worries.

Another 40-year old breast cancer patient (BC2) does not want to show her frailty in front of her family and she needs to keep her role as the mainstay in the family:

去年年底查出乳腺癌二期，那段时间我特别低落，很想有个对象让我说说自己的感受，但我不是很想在家人面前表现出我的脆弱。... 我本来是家里的主心骨，父母孩子老公都是我照顾的，一开始病了之后，我特口无助，不是说我家人不能给我支持，而是我习惯了给他们付出并不想让我的病改变我们之间的

关系，所以我当时会开微博，加微群，我觉得和这些病友们交谈的时候我可以更真实的面对自己的担忧。

When I was diagnosed with stage two breast cancer at the end of last year, I was very depressed, and needed a person to express my feelings; however, I don't want to show my frailty in front of my family. ... I was the mainstay of my family, and took care my parents, kid and my husband. I was helpless at the beginning, it's not that my family cannot provide me support, but I have been used to paying for them, I don't want the disease to change the role of us. So I sign up for Weibo, join the Weibo group, I feel that with these other patients, I can be more honest about my worry.

In Wright's (2000) study on characteristics of weak-tie support network preferences among members of health-related computer-mediated support groups, the author found that some support seekers preferred support from weak ties while online, as they provided different viewpoints. This finding can be also extracted from my current study on social support from social network sites. Participants from these social support groups refer to the multiple information resources being reached in Weibo social support. This 32 male member from the Arthritis Group values most the different treatment recommendations in the Weibo group:

微博群里群友会介绍自己正在用哪种疗法,效果怎么样,有西医的,中医推拿的,还有气功的,我每种都会去了解一下.我平时自己能接触到的疗法毕竟有限,医生会有自己那套方式,在群里看看就像是看了很多个医生.

Group members in the Weibo group tell others what treatment they are under and if it is effective, they have talked about West medicine, Chinese medicine, massage, and Qigong. I will take a look at each treatment. The treatments I can get access to are limited; doctors have their own philosophy, but via Weibo group, it's just like I can visit many different doctors.

Though according to our study on the four Weibo support groups, the Baby Eczema and Children's Health group are quite inactive, parents still have their own way to seek social support on Weibo, even though the Weibo group is not their main platform which we are going to discuss later. A young 26-year old mom indicates that when she

posted a question on how to treat her 2-month old daughter's eczema in her own profile, she received multiple replies discussing how to deal with it:

我在自己微博上说了我家宝宝发湿疹，问问有没有人能推荐比较好的治宝宝是湿疹的药膏，结果我微博上一些妈妈们不仅给我推荐了他们用的有效的药膏，还告诉我不要轻易就用药膏，还有人给我推荐了金银花洗澡去湿疹，还有人跟我说我要注意饮食，还给我一个食物过敏的图标。

I tweeted about my baby's eczema on my profile and asked if anyone could recommend some good OTC medication treating baby eczema, some group friends not only recommended the medication they think useful, but told me not to use it unless it is necessary. Other group friends recommended me the herbal treatment like using honeysuckle flower for bath, and some other group members said I need to watch what I eat, and they even provide a food allergy graph for me to check.

### **Weibo as a Convenient Platform Over Face-to-Face Support Group**

Motivations for seeking social support from social network sites over traditional face-to-face support groups varied according to our interview. In addition to flexible hours and locations which is widely acknowledged as a most important advantage of online social support, the lack of off-line social support groups is the main reason people cannot gain access to such an efficient group. Peng and Gu (2012) indicated that social support group programs started relatively late in Mainland China, and still have drawbacks and difficulties in operations. According to the interviewees, more than half of participants never took part in a face-to-face support group because they never heard about it. Some interviewees had participated in a face-to-face group when they were hospitalized, or during other time, but the group activity was limited in either frequency or duration:

这些座谈会做普及教育还是很好的，提醒大家早诊断早治疗，座谈会上可以和一些刚刚患病的朋友交流，告诉他们一些我的经历，包括诊断治疗方法还有心理上的积极改变，不过这些活动还是太少了，一年只有那么一两次，就会上那么一两个小时，很多问题也无法真正提到，

Such seminars are good as a way to popularize education, and remind people to diagnose and treat the disease at early stage. I could interact with some new

patients and share my experience, including treatment choice and positive psychological recovery. But the duration and frequency are far from enough, only once or twice a year, and one or two hours every time. Many problems can't be mentioned.

Some face-to-face support groups organized by health care organizations are only open to new patients and patients undergoing chemotherapy, but ignore their participants' long-term needs for physical and psychological recovery after:

我参加过几次，是2012年初化疗期间医院组织的，主要是几个病友在一起，有护士和志愿者宣传一些日常康复知识，病友之间可以谈谈化疗期间的感受，还有请过两个已经康复的患者，主要是鼓励我们坚持做完化疗挺过去。医院就组织过几次，等我们中有人化疗结束以后，就没再组织过我们，我们几个人当中也没有自己组织起来。

I took part (in a face-to-face support group) for several times. It was at the beginning of 2012 and organized by the hospital. Several patients got together, there were nurses and volunteers who imparted some information and knowledge on recovery, patients could communicate on the feelings of chemotherapy, they invited two (breast cancer) survivors to encourage us to complete the treatment and not to give up. The hospital only organized several times, and discontinued after some of us completed the therapy. None of us group members started it again.

Though the participation activity and administration vary in different Weibo support groups, which we will discuss later in other parts in the research, the higher group cohesion of some Weibo groups is an important reason to attract people seeking social support via Weibo instead of traditional support groups. The best example is the breast cancer support group, which is highlighted by this following (BC4) 36-year old group member:

不过这个支持小组(传统面对面小组)在我出院以后就没有再参加了,因为时间上并不是很方便,而且人员变动挺大的,之前参加的病友可能隔了没多久就不来了,会又换一批新的病友,没有一个比较固定的圈子,而且说实话,出了院就不会太想回医院,有时候复诊去一下医院,也不想在医院逗留太久,可能也是这个原因,小组病友人员变动会多. 新浪微博还是比较方便的,可以天天跟病友交流,各个病情阶段的朋友都有,老的可以带带新的,而且感觉整个小组人

员是不断壮大的,大家之间的感情也是越来越好,可以建立比较长期的友谊。But I hadn't taken part in this support group (traditional support group) any more after I was discharged, because it's inconvenient to match the time. In addition, the support group members change a lot, group members participating before stop showing up after a while, and a group of new patients come. There is no relatively fixed network, and to be honest, I didn't want to get back to the hospital after I was discharged, and didn't want to stay long in the hospital; maybe it's the reason for high turnover of group members. Sina Weibo is convenient to interact with other patients. There are (breast cancer) patients of different stages. People with longer disease experience can mentor new patients and group members, and I feel the group is expanded, and affections grow stronger among us. Long-term friendships can be established.

In addition to face-to-face social support groups, some online health-related forums are also considered not "fixed":

我当时也加入过几个乳腺癌的(网上)论坛,并不是特别积极,有很多人会发帖问问题,有时也会有人回答,但人员变动挺大的,今天看见这个人在论坛上说话的,明天就看不到了,很难形成比较固定的朋友圈。

I took part in some (online) breast cancer forums, not very active. Many people ask questions on forums, sometimes they got replies, but there are few fixed members. You may see one peer's posting today, but she never shows up again. It is hard to establish a fixed social network on forums.

One reason that some Weibo groups, if being operated appropriately, can maintain group members and establish long-term networks is that Weibo users have their own profile and logging on Weibo has become a daily activity in their spare time.

Seeking social support on Weibo for some people is their initial motivation to sign up, and for some other people, Weibo can be considered a bonus function. In either situation, many of the participants have used Weibo for pleasure, information, and interaction.

They are not restricted to social support seeking purpose, as illustrated below:

我刚开微博的时候,身体还很好,我就是像一般人一样关注一些微博名人,同事朋友,还有一些感兴趣的人,基本每天都刷,消遣时间,后来病了以后才开始专门关注了一些相关的账号和群组.我现在还是像原来那样每天刷微博,只是会更关注一下乳腺癌方面的内容,另外也常常去群里看看.

When I first sign up on Weibo, I was well and just like other users. I followed some Weibo celebrities, colleagues and friends, and some interesting people. I scanned Weibo almost everyday to kill time. After I was sick, I began to follow those breast cancer related accounts and groups. I'm still scanning Weibo everyday, but just pay particular attention to breast cancer related content and visit the group page usually.

### **Weibo as a Platform for Recording and Self-expression**

One motivation for some people with medical concerns to use Weibo that differs from those who participate in online health-related forums, or traditional face-to-face support groups, is that some users just want to record their thoughts, feelings and experiences living with a certain disease. They do not even expect others to be listening. Kim and Sherman (2007) indicated that due to the culture difference in the importance of self-expression in individualistic and collectivistic cultures, self-expression is not routinely or commonly encouraged and emphasized in the latter. However, Weibo provides the users with a platform to express themselves with less stress and reduced role obligations. Sometimes, this motivation for using Weibo is compatible with other motivations like communicating with others, or seeking information; while sometimes such motivation may change over time. People do not even know they can seek social support from a social network site at the beginning; they just consider Weibo as a micro-blog platform on which they can express themselves freely. Later they find it a good platform to interact with other people with similar experiences and to look for information. The following passage illustrates one of these situations:

我开微博本来就是想记录自己的病情，写写我的感受，不管是不是好的，就像日记一样，倾诉一下，我也没想到会有人来看。后来就有□的类风湿的朋友关注了我，还告诉我有一个风湿类风湿的微群，我就加入进来了，发现原来微博上有不少病友，微群里面还能替问题，大家可以帮你解答。微博上认识了病友，我写的这些经历情就都会有人回复，鼓励我。我开始对自己写微博有了一种期待，好像就不再是自言自语了。

I log on Weibo to record my disease status and my feelings, no matter whether it is good or not, just like writing a diary. I don't expect it can be read by others. Later some other people with Rheumatoid Arthritis followed me on Weibo, and told me there was a Weibo group about arthritis, and I joined. Then I found there are many arthritis patients on Weibo. If you ask a question, they can help you find the answer. Having these friends with similar experience, my Weibo posts about the disease got replies and encouragement. I began to have an expectation for my Weibo postings; it's not only talking to myself anymore.

### **Observe, Then Post**

However, for some people they do not post anything on their Weibo profile or Weibo group at first, but observe instead. Observation satisfies their needs of getting information and understanding the experience of people who share similar medical concerns with them. Some observers turn to be active posters when they have a better knowledge on what they can post and why they post. The following passage illustrates how a 40-year old breast cancer patient turned from an observer to an active poster:

我一开始在微博上关注了一些和乳腺癌有关的账号,有病友,有医生,也有一些公共账号,我也不知道该写些什么内容,没有用过这种社交网站,所以主要是看为主,了解一些信息,看看病友的经历,有时候看他们发一些正能量的内容,我也觉得挺受鼓励的.然后我就想我也应该加入进来,记录自己的经历,转发一些我觉得比较好的内容给别的微博好友,到群里面问问困惑我的问题,比如乳腺癌的忌口等等...

I begin with following those accounts related to breast cancer, including other patients, professionals, or some official account. I don't know what I can post. I am new to these social network sites, so I focus on observing, pick up some information, and other patients' experience. Sometimes I feel encouraged by the positive content they post. Then I think I should also join in to record my experience, retweet postings I think good, and directly ask questions in the group, like a certain diet of a breast cancer patient.

Besides, there are some group members choosing observing instead of active posting because they have difficulty in typing and computer operating. Though computer and Internet popularization in China is rising, some of the middle-aged and elderly are baffled by the techniques and skills required. This also explains why the average age of

the participants in the current study is quite young. However, it is possible that there are some invisible older group members lurking within the Weibo group in front of the computer. Fortunately, we have a group member who participated in the group and current study as the daughter of a breast cancer patient:

我妈妈不太会打字, 所以之前一直是我帮她在微博上发言的, 我在微博群里主要是咨询其他患者的一些经历和建议, 看看其他患者的一些想法, 可以更好的了解我妈妈可能需要什么样的帮助, 我妈妈自己也会用我的账号看微群, 她说她看了这些发言会觉得挺积极正面的. 另外, 乳腺癌还是有遗传的可能, 我也会担心我以后会发病, 所以我也觉得早点接触这些可能对我以后如果也不幸中招会有好处, 至少让我早一点了解可能要经历的做好思想准备, 还有就是多了解一些信息, 尽量避免患病的可能。我妈妈最近开始学了五笔, 自己注册了账号, 也开始在群里交流了。

My mom is not good at typing, so I posted for her until recently. I asked questions about other patients' experience, advice, and their thoughts to better understand what kind of support my mom may need. My mom sometimes used my account to visit the group. She says she finds these tweets in the group are quite positive. In addition, for me, breast cancer is a genetic disease, so I am worried about myself. Getting in touch with these earlier may be beneficial to me if I get it some day. At least I can psych for it. And I hope I can avoid the possibility of getting the disease if I master more information. My mom is now studying to type, and she signs up her own Weibo account to communicate in the group.

### **Multiple Uses of Weibo for Social Support**

Weibo can be used in different ways for social support purposes, including Weibo Group, Weibo Homepage and Profile, and Weibo Message. Weibo support group is a highlighted platform for people to make acquaintance with others with similar medical concerns, inquire for answers from multiple viewpoints, and initiate interaction among group members on diagnosis and treatment, or gain emotional support, as indicated by the following informants:

我从群里面认识了一些(□风湿)病友, 我会描述给他们听我的病情, 他们会给我建议。

I got to know some other (Rheumatoid Arthritis) patients. I described my disease status to them, and got suggestions from them.

我基本上还是以微群寻求支持为主, 在微群里我会提问, 回答别人的问题, 和大家交流自己所知道的一些信息, 自己的经历, 互相鼓励。

Basically I seek support from Weibo group, I ask questions in the group, provide my answers to other members, communicate related information and my experiences with them, and we encourage each other.

The function of Weibo as a social support platform is not restricted to Weibo groups, which might be of little difference with other health related forums. People with medical concerns also obtain social support from professionals, other patients, and even friends with no similar disease experience on their own Weibo profile or visiting others' Weibo profile.

As mentioned above, some Weibo users prefer observing others' postings, not only on Weibo groups, but also on their personal Weibo profile. By following the accounts of people with similar medical concerns, they can have an initial understanding on one's experience, attitude, and feelings of living with a certain disease. A positive life attitude can be spread even without interaction. Moreover, it makes people with similar medical concerns feel close to each other, since it is not only a name on the screen anymore; it is one's life, as evidenced in the following excerpt:

确实感觉在微博上能交到比较固定的病友, 不光群里面活跃度高, 各自还有主页, 还能在大家主页上对病友多一点了解, 知道她的生活, 经历, 爱好, 心愿, 理想, 对疾病的态度, 这些平常生活的点点滴滴有时甚至比一次对话更能让我们彼此了解。不像其他论坛上就简简单单一个名字。

I feel that I can make some steady friend with similar medical concerns. The group is quite active and group members have their own profile page. Via the profile page I can read their life, experiences, hobbies, wishes, ideals, and attitude to the disease. These small grains in daily life make us connect to each other more, sometimes even better than a conversation. It's not like other online forums with only one nametag.

In addition, by following professionals and other patients, one can pick up information they are concerned with while they are reading all the microblogs on the

Home page. Moreover, with the @ function on Weibo, they can directly contact professionals who have Weibo accounts and whom they trust to ask questions of, or even make appointments, as indicated in the following excerpts:

我会自己的页面上@一些(儿科)医生和有经验的妈妈问问题,另外我也关注了这些博友的微博,随时看他们更新一些关于孩子健康方面的内容。  
I will mention @ some (pediatric) professionals and experienced moms to ask them questions. In addition, I follow their account to read the Children's health related content they updated at anytime.

而且微博有个很方便的是,可以和(关节炎)专家一对一聊,还能预约,医院挂号预约很难约的特别是外地的,而且也不太知道该挂谁的号,在微博上可以先了解医生的治疗理念,经验,还能有机会对话,还能提供联系方式直接预约  
And Weibo is convenient to interact with the (arthritis) professional one-to-one, and I can even make an appointment with some of these professional. It is hard to make an appointment in clinic, especially for patients living away from the professional's city. In addition, you may not know which professional you should see, and via the Weibo account profile, you can read the professional's treatment philosophy and experience. You have the chance to talk to them and get the contact information to make an appointment.

Weibo message is another avenue that people use to obtain social support from peers. Though Weibo group and profile pages have provided strong platforms for people to communicate information and emotional encouragement, Weibo message is a channel conveying more private conversations between people seeking or providing social support. One participant from the Weibo breast cancer support group said she received Weibo messages from another patient to ask for suggestions, and the topic was about married life, which she should not post publicly. In addition to private topics, people can have a deeper and wider conversation via Weibo message.

### **Messages Communicated in Weibo Support Groups**

Table 1- Table 4 are summaries of the posting categories and percentage

Table1 Posting Categories and Percentage Identified in Weibo Breast Cancer Group

Category	No. of Postings Sep. 24-Dec 23 2011	No. of Postings Oct. 1- Dec. 31 2012	Total
Information total	58 (41.7%)	60 (28.0)	118 (33.4)
Giving	28 (20.1%)	20 (9.3)	48 (13.6)
Seeking	30 (21.6%)	40 (18.7)	70 (19.8)
Personal opinions	5 (3.6%)	7 (3.2)	12 (3.4)
Personal experiences	41 (29.4%)	42 (19.6)	83 (23.5)
Encouragement and support	9 (6.4%)	31 (14.5)	40 (11.3)
Thanks	3 (2.2%)	2 (1.0)	5 (1.4)
Humor	2 (1.4%)	2 (1.0)	4 (1.1)
Prayer	0 (0%)	5 (2.3)	5 (1.4)
Others	17 (12.2%)	20 (9.3)	37 (10.5)
Commercial total	4 (2.9%)	1 (0)	5 (1.4)
Related	4 (2.9%)	0 (0)	4 (1.1)
Unrelated	0 (0)	1 (0)	1 (0)
Group Assembling	7 (5.0%)	28 (1.3)	35 (9.9)
Total Postings	139	214	353

Table2 Posting Categories and Percentage Identified in Weibo Arthritis Group

Category	No. of Postings Jan. 20- Apr. 19 2011	No. of Postings Oct. 1- Dec. 31 2012	Total
Information total	16 (44.4)	27 (47.4)	43 (46.2)
Giving	11 (30.6)	18 (31.6)	29 (31.2)
Seeking	5 (13.9)	9 (15.8)	14 (15.1)
Personal opinions	2 (5.6)	2 (3.5)	4 (4.3)
Personal experiences	7 (19.4)	5 (8.8)	12 (12.9)
Encouragement and support	4 (11.2)	7 (12.3)	11 (11.8)
Thanks	2 (5.6)	3 (5.3)	5 (5.4)
Humor	1 (2.8)	3 (5.3)	1 (0)
Prayer	1 (2.8)	0 (0)	1 (0)
Others	2 (5.6)	3 (5.3)	5 (5.4)
Commercial total	8 (22.2)	14 (24.6)	22 (23.7)
Related	7 (19.4)	11 (19.3)	18 (19.4)
Unrelated	1 (2.8)	3 (5.3)	4 (4.3)
Group Assembling	1 (2.8)	0 (0)	1 (0)
Total Postings	36	57	93

Table3 Posting Categories and Percentage Identified in Baby Eczema Group

Category	No. of Postings Oct.25 2011- Jan.24 2012	No. of Postings Oct. 1- Dec. 31 2012	Total
Information total	40 (22.5)	8 (20.5)	48 (22.1)
Giving	30 (16.9)	5 (12.8)	35 (16.1)
Seeking	10 (5.6)	3 (7.7)	13 (6.0)
Personal opinions	2 (1.1)	0 (0)	2 (0.9)
Personal experiences	9 (5.1)	3 (7.7)	12(5.5)
Encouragement and support	2 (1.1)	0 (0)	2 (0.9)
Thanks	2 (1.1)	0 (0)	2 (0.9)
Humor	1 (0.6)	0 (0)	1 (0.5)
Prayer	0 (0)	0 (0)	0 (0)
Others	8 (4.5)	3 (7.7)	11 (5.1)
Commercial total	132 (74.2)	30 (92.2)	162 (74.7)
Related	39 (21.9)	20 (51.2)	59 (27.2)
Unrelated	93 (52.3)	16 (41.0)	109 (50.2)
Group Assembling	1 (0.6)	1 (0)	2 (0.9)
Total Postings	178	39	217

Table4 Posting Categories and Percentage Identified in Weibo Children’s Health Group

Category	No. of Postings Mar. 4-Jun.3 2011	No. of Postings Oct. 1- Dec. 31 2012	Total
Information total	40 (42.6)	45 (32.8)	85 (37.0)
Giving	17 (18.1)	21 (15.4)	40 (17.4)
Seeking	23 (24.5)	24 (17.6)	48 (20.9)
Personal opinions	3 (3.2)	4 (2.9)	7 (3.0)
Personal experiences	17 (18.1)	12 (8.8)	29 (12.6)
Encouragement and support	7 (7.4)	8 (5.9)	15 (6.5)
Thanks	3 (3.2)	4 (2.9)	7 (3.0)
Humor	1 (1.1)	4 (2.9)	5 (2.2)
Prayer	2 (2.1)	1 (0.7)	3 (1.3)
Others	9 (9.6)	7 (5.1)	16 (7.0)
Commercial total	20 (21.3)	48 (35.3)	68 (29.6)
Related	12 (12.8)	22 (16.2)	34 (14.8)
Unrelated	8 (8.5)	26 (19.1)	34 (14.8)
Group Assembling	2 (2.1)	0 (0)	2 (1.0)
Total Postings	94	136	230

identified in the four Weibo support groups, and Table 1.2- Table 4.2 are summaries of the posting reply categories and percentages.

### **Activeness of Weibo Support Group**

According to the numbers of postings and replies of each Weibo support group during the first three months since established (each group was established in different time, as shown in the tables), and the last three months of 2012, the Breast Cancer Group is the most active support group in Weibo, with 353 postings and 1088 replies. It also stands out with the highest reply rate of 308.2%. Members of the Arthritis Group posted only 93 messages, which is lower than the other three groups; however, they replied quite frequently, with 213 replies and a 229.0% reply rate. The Baby Eczema Group and Children's Health Group have respectively 217 and 230 postings, and the replying rates are quite low at 35.9% and 120.0%. A notable characteristic, or potential problem, in the Baby Eczema and Children's Health Groups is that there are too many unrelated commercial messages posted in the group, which can be considered junk messages.

For three of the four groups, the numbers of postings in the last three months of 2012 are higher than the first three months since they were established, either with or without the reply numbers, except for the Baby Eczema group. It is possible that there were more than 90% of postings as commercial messages in the group after one year since the group was established. Around 41% are commercials unrelated to the topic. It is understandable that members do not have reason to reply to junk messages.

### **Information Giving/Information Seeking**

#### Similarities

Information giving/ information seeking received the greatest number of both

Table5 Reply Categories and Percentage Identified in Weibo Breast Cancer Group

Category	No. of Postings Sept 24-Dec 23 2011	No. of Postings Oct. 1- Dec. 31 2012	Total
Information total	124 (40.9%)	252 (32.1)	376 (34.5)
Giving	79 (26.1%)	183 (23.3)	262 (24.1)
Seeking	45 (14.9%)	69 (8.8)	114 (10.5)
Personal opinions	43 (14.2%)	98 (12.5)	141 (13.0)
Personal experiences	58 (19.1%)	129 (16.4)	187 (17.2)
Encouragement and support	59 (19.5%)	193 (24.6)	252 (23.2)
Thanks	40 (13.2%)	94 (12.0)	134 (12.3)
Humor	0 (0%)	3 (0.4)	3 (0.3)
Prayer	0 (0%)	3 (0.4)	3 (0.3)
Others	16 (5.3%)	28 (3.6)	44 (4.0)
Commercial total	2 (0.7%)	0 (0)	2 (0.2)
Related	2 (0.7%)	0 (0)	2 (0.2)
Unrelated	0 (0)	0 (0)	0 (0)
Group Assembling	4 (1.3%)	18 (2.3)	22 (2.0)
Total Postings	303	785	1088

Table6 Reply Categories and Percentage Identified in Weibo Arthritis Group

Category	No. of Postings Jan. 20- Apr. 19 2011	No. of Postings Oct. 1- Dec. 31 2012	Total
Information total	30 (35.7)	46 (35.7)	76 (35.7)
Giving	23 (27.4)	40 (31.0)	63 (29.6)
Seeking	7 (8.3)	6 (4.7)	13 (6.1)
Personal opinions	7 (8.3)	7 (5.4)	14 (6.6)
Personal experiences	18 (21.4)	22 (17.1)	40 (18.8)
Encouragement and support	15 (17.9)	24 (18.6)	39 (18.3)
Thanks	14 (16.7)	17 (13.2)	31 (14.6)
Humor	0 (0)	0 (0)	0 (0)
Prayer	4 (4.8)	5 (3.9)	9 (4.2)
Miscellaneous	3 (3.6)	2 (1.6)	5 (2.3)
Commercial total	17 (20.2)	40 (31.0)	57 (26.8)
Related	13 (15.5)	37 (28.7)	50 (23.5)
Unrelated	4 (4.8)	3 (2.3)	7 (3.3)
Group	3 (3.6)	0 (0)	3 (1.4)
Total Postings	84	129	213

Table7 Reply Categories and Percentage Identified in Baby Eczema Group

Category	No. of Postings Oct.25 2011- Jan.24 2012	No. of Postings Oct. 1- Dec. 31 2012	Total
Information total	7 (25.0)	7 (42.9)	14 (17.9)
Giving	5 (17.9)	4 (20.6)	9(11.5)
Seeking	2 (7.1)	3 (6.3)	5 (6.4)
Personal opinions	2 (7.1)	3 (15.9)	5 (6.4)
Personal experiences	3 (10.7)	5 (19.0)	8 (10.2)
Encouragement and support	0 (0)	0 (9.5)	0 (0)
Thanks	2 (7.1)	0 (12.7)	2(2.6)
Humor	0 (0)	0 (0)	0 (0)
Prayer	0 (0)	0 (3.2)	0 (0)
Others	3 (10.7)	3 (1.6)	6 (7.7)
Commercial total	13 (46.5)	34 (54.0)	47 (60.2)
Related	12 (42.9)	29 (46.0)	41 (52.6)
Unrelated	1 (3.6)	5 (7.9)	6 (7.6)
Group Assembling	0 (0)	0 (0)	0 (0)
Total Postings	28	50	78

Table8 Reply Categories and Percentage Identified in Weibo Children’s Health Group

Category	No. of Postings Mar. 4-Jun.3 2011	No. of Postings Oct. 1- Dec. 31 2012	Total
Information total	29 (24.2)	35 (22.4)	64 (23.2)
Giving	14 (11.7)	23 (14.7)	37 (13.4)
Seeking	15 (12.5)	12 (7.7)	27 (9.8)
Personal opinions	23 (19.2)	29 (18.6)	52 (18.8)
Personal experiences	20 (16.7)	22 (14.1)	42 (15.2)
Encouragement and support	14 (11.7)	20 (12.8)	34 (12.3)
Thanks	18 (15.0)	23 (14.7)	41 (14.9)
Humor	0 (0)	4 (2.6)	4 (1.5)
Prayer	4 (3.3)	2 (1.3)	6 (2.2)
Others	2 (1.7)	3 (1.9)	5 (1.8)
Commercial total	30 (25)	38 (24.3)	68 (24.6)
Related	25 (20.8)	29 (18.6)	54 (19.6)
Unrelated	5 (4.2)	9 (5.7)	14 (5.1)
Group Assembling	3 (2.5)	0 (0)	3 (1.1)
Total Postings	120	156	276

postings and replies throughout the 6-month period in all four groups. Information-seeking requests were 184 (70+114) (See Table 1.1 and 1.2), 27 (14+13) (See Table 2.1 and 2.2), 18 (13+5) (See Table 3.1 and 3.2), 75 (48+27) (See Table 4.1 and 4.2) respectively in the four groups, and information giving totaled 310 (48+262) (See Table 1.1 and 1.2), 92 (29+63) (See Table 2.1 and 2.2), 44 (35+9) (See Table 3.1 and 3.2), 57 (20+37) (See Table 4.1 and 4.2). Singular information seeking messages sometimes received multiple responses, especially in the Breast Cancer Group and the Arthritis Group, accounting for the preponderance of information-giving messages.

Group members requested information and suggestions on various topics. Questions on effective medications and treatment choices were frequently asked in all the groups. In the Children's Health Group and the Baby Eczema Group, parents also described some symptoms of their children in the group and asked others to diagnose or confirm the conditions. Most of the time they are just minor illnesses. The Arthritis Group members care about whether and how long they would recover. In the Breast Cancer Group, questions on healthy diet and lifestyle after chemotherapy occurred as often as questions regarding treatment choice. Information-giving replies, most of the time, related to specific questions asked in the groups. Sometimes, group members give information in the replies as a supplement to the information-giving postings. Arthritis group members provide information on the multiple treatments of rheumatic arthritis and rheumatoid arthritis, many of which are alternative therapies--such as acupuncture, massage, dietary supplement, and Qigong.

#### Differences

The identities of the posters of information-giving messages are different in some

of the groups. Many information-giving messages are provided by professionals and commercial accounts in the Arthritis Group, the Baby Eczema Group, and the Children's Health Group. The Children's Health Group was founded by a pediatric professional, and he has been the main responder to information seeking messages. Many commercial accounts in these three groups recommended treatments and medications. In the Arthritis Group, even some professionals suggested their services and organizations along with the health-related information they provide. Different from these three groups, the Breast Cancer Group conveyed less informational messages from professionals and commercial accounts, but communicated information by relying largely on patients and survivors themselves. The founder of the Breast Cancer Group once posted a message requiring the professionals answering questions in the group under "anonymous" to avoid any postings with commercial purposes.

乳腺癌抗争群是患者自主交流的平台，欢迎专业医生以匿名方式答疑解惑，但不欢迎那些有推销嫌疑的生产商经销商。望自动退出，否则将被踢出。不好意思！

Breast Cancer Group is a platform for patients' communication. We welcome professionals who answer questions under anonymous, but we don't welcome those distributors and manufacturers posting messages for commercial purposes. We hope you can withdraw yourself from the group, or you will be sent out.

## **Personal Experience**

In addition to information-giving replies, group members respond to information seeking postings with personal opinions and personal experiences.

### **Similarities**

Personal experience messages were posted in high frequency either in the postings or as replies in all four groups if we do not account for the junk messages in some groups. Personal experiences messages take up 23.5% and 17.2% of the postings

and replies in the Breast Cancer Group, 12.9% and 18.8% in the Arthritis Group (See Table 2.1 and 2.2), 12.6% and 15.2% (See Table 1.1 and 1.2) in the Children's Health Group (See Table 4.1 and 4.2), and 5.5% and 10.2% in the Baby Eczema Group (See Table 3.1 and 3.2). Though there were some health professionals posting in the groups, patients and their families are still the main parties in these groups, especially in the Breast Cancer Group. Therefore, the large percentages of postings and responses in this category stand to reason. New members sometimes introduced their situations including diagnosis and treatment experience before they joined the discussion. Sometimes when group members asked for information, they may first share their own experience because individual's actual situation, including diagnosis and treatment experience, is different. In addition, people share their personal experiences in groups to ask for or provide emotional support.

#### Differences

In some postings in the Breast Cancer and Arthritis groups, the group member showed their frustration with their disease and physical situation by describing their unsatisfactory diagnosis and treatment experiences to expect emotional support. Others responded and shared their similar experiences to let other member know that the situation would be getting better. However, in the Children's Health Group and Baby Eczema Group, parents share their experience to communicate the various treatments for minor illnesses.

#### **Personal Opinion**

Personal opinion postings are not as frequent as information giving and personal experience messages. In the Breast Cancer Group and the Arthritis Group, members

expressed their opinions on the cause and nature of the disease and the meaning of life living with disease. When responding to others' postings, in one of any four groups, the members gave their opinions on treatment choice and agreed or disagreed with the viewpoints provided by others. In the Children's Health Group, some of the replies suggested the parents visit a local doctor for a definite diagnosis.

## **Encouragement and Support**

### Differences

Group members responded with encouragement/support messages more often in the Breast Cancer Group and Arthritis Group, in which peers may need more emotional support, than in the other two groups. The percentage of encouragement/support messages in postings and replies identified in the Breast Cancer Group are 11.3% and 23.2% (See Table 1.1 and 1.2), and in the Arthritis Group are 11.8% and 18.3% (See Table 2.1 and 2.2). Either when the group members vented their frustration, or when they expressed their confidence of recovery, other members responded with good luck or best wishes, affirmation of their insistence or confidence, positive energy, or expressions of sympathy. In addition to responses with encouragement/support, support group members sometimes post an encouragement/support message to all the group members, and expressed their wishes to all the people with that certain medical concern.

Encouragement/support messages also appeared in the other two groups, and often showed the group members' care and wishes to the children and parents. However, due to the severity and nature of different diseases, the Baby Eczema Group and the Children's Health Group members sought and gained less emotional support than those dealing with life-threatening and chronic diseases. The percentage of encouragement/support

messages in postings and replies identified in the Baby Eczema Group are only 0.9% and 0 (See Table3.1 and 3.2), and in the Children's Health Group are 6.5% and 12.3% (See Table4.1 and 4.2).

### **Thanks**

To show appreciation for sharing information and experiences, providing advice and expressing encouragement, group members responded with thanks. Sometimes group members expressed thanks to people who took care of them and support them in their real life.

### **Humor**

Humor messages were not posted as frequently as other categories discussed above. Sometimes group members shared jokes they picked up online or offline to animate the group atmosphere.

### **Prayer**

Prayer messages appeared less in Chinese Weibo support groups than the online Breast Cancer Group (Klemm, 1998) and Alzheimer Group (White, 2000), compared to Western patients. Several support group members believed in Buddhism and prayed for other group members during special Buddhism days, and sometimes the prayer was not even related to a certain disease, but to the lifetime happiness of everyone and their families.

### **Commercial**

#### Differences

I added the commercial category to the typology because when I looked into all

the sample messages in all four groups, commercial messages took a large part in the Arthritis, Baby Eczema and Children's Health groups. The Baby Eczema Group has the highest percentage of commercial postings and replies with 74.7%, and 60.2% respectively (See Table 3.1 and 3.2). In the Arthritis Group, the percentage of commercial message reached 23.7% in postings and 26.8% in replies (See Table 2.1 and 2.2). In the Children's Health Group, the percentage of commercial message is 29.6% in postings and 24.6% in replies. The commercial messages can be divided into two types: topic-related and unrelated. Topic-related commercial messages are often posted by medication or medical instrument distributors and merchandisers. As mentioned before, these messages were sometimes posted along with disease-related information and sometimes they acted as responses to messages seeking information on disease diagnosis, medications, or treatment. Professionals sometimes posted in the Arthritis Group to promote their private clinics and attract potential customers or patients. Unrelated commercial messages were flush in the Baby Eczema and Children's Health groups, especially in the last three months of 2012 with a percentage of 41.0% (See Table 3.1) and 19.1% (See Table 4.1) in postings.

The Breast Cancer Group is different from the above three groups in its effective restriction of commercial messages posted in the group. Administrators of the Breast Cancer Group were quite watchful for the topic-related commercial messages, not to mention the unrelated junk messages, which rarely showed up in the group. There were only six commercial messages in the total 1441 (1088+353) postings and replies in the Breast Cancer Group

## **Group Assembling**

In addition to commercial messages, another category of Group Assembling is added in the system. I added this category for the Breast Cancer Group, since the group is so well organized that administrators sometimes posted greetings to members and encouraged them to join the discussion. Also, three times, as we know from the sample messages, they had organized face-to-face meeting for group members. They sent invitations and received RSVPs, discussed the meeting planning details, and shared the meeting flyers in the group. In the other three groups, group-assembling interactions also occur when new members joined in and others showed their welcome.

## **Others**

Information that did not fit into any of the above categories was classified as Others, which include those junk messages with no relations to the topic.

## **Disadvantages of Weibo Support Group**

Though according to our findings Weibo as an online social support platform has provided much effective social support to support seekers, potential disadvantages may still occur in Weibo support seeking and providing. Uden-Kraan et al. (2008) conducted content analysis on the postings in an online social support forum for cancer patients. According to their research, only a very few postings contained potential disadvantages. In the present study, I directly asked the Weibo support seekers to answer Research Questions 3a and 3b about what disadvantages or negative experiences they have when seeking social support on Weibo and whether these disadvantages are controllable.

Several findings are highlighted. 1) The 140-character limit adversely affects Weibo to be main information resource, and the “fast food” interactions make the

communication simple and superficial. 2) Floods of commercials in some groups overwhelm more important posting which share information and experience, exchange emotional support. Moreover too many commercials cluttered in the group cool off the group members interest and loyalty to the support group. 3) Information accuracy is a problem Weibo support seekers express concern about as with most other information online. 4) Some negative emotions released on Weibo influence other social support seekers and upset them.

Apart from “complaining” pitfalls of seeking social support on Weibo, participants’ statements also answer Research Question 3b about whether these problems can be avoided or controlled. 1) Weibo users can attach a hyperlink, or an image and video to post beyond the 140-character limit. 2) Commercials are annoying, but sometimes could be informative. 3) Although user-generated information may be more problematic, the interactive communication featured in Weibo makes it possible for users to self-purify the inaccurate information. 4) Though there are some negative emotions on Weibo, the group atmosphere is more positive.

### **Is a 140-Character Message Long Enough?**

Weibo, also known as micro-blog, allows the users to post within a 140-character limit. It is questioned whether the length limit may restrict information sharing. Several participants do not make Weibo their main information resource, and one of the reasons is that they think that some of the information on Weibo is not clear enough. They prefer reading information from professional websites, and Weibo is a supplement.

我看风湿相关的治疗方法主要还是在丁香园上,那上面说的比较详细,微博上的内容就几行字,很难讲清楚的,回头还是要看别的资料才行.我在微博上主要是看看口的病友的经历,治疗的情况,了解一下大家的评价.

I read arthritis treatment related information mainly on Dingxiangyuan (which is a professional medical information website), and the information there is quite detailed. Messages on Weibo can only contain several rows, and it's hard to make it clear, and I need to read external information. I mainly use Weibo to know others' experience, their treatment effectiveness, and their evaluation on the treatment.

However, some participants do not consider the length limit an issue, and a mom from the Children's Health support group said she preferred the concise information.

我喜欢看微博这样比较简要的概括信息,经常那些长篇的文章我是没心思看的,微博这样简短的内容我反而会一个个字仔细看.

I like reading the concise messages of Weibo. I usually don't have the patience to read the long essay, but I read a Weibo message carefully character by character.

In addition, the features of Weibo allow the users to give information in details in various ways, such as using a hyperlink, or attaching an image and video. If the Weibo users know how to take advantage of these features, 140-character message can also contain sufficient information to share. A member from the Arthritis Group shared how she read the information-giving messages in Weibo:

我会先读微博上写的那些信息,如果我感兴趣可以点链接看原文.不过有些微博没有带链接或者来源的,我就会比较怀疑信息准确性了,疾病的东西很复杂的,也不是几句话能说清楚的.我比较关注的内容我会点链接到原文再看,有比较详细的解释,而且微博里可以嵌入图片,长微博,还有视频,所以如果想要表述的详细,还是有很多方法的.我现在用的按摩疗法就是在微博群里看到的,那条微博就是嵌了个视频.

I will first read information in tweets, and if I get interested I will click the hyperlink to read the original, complete information. But if there are some tweets with no reference or hyperlink, I will doubt their validity. Information about disease is very complex and cannot be made clear in just a few sentences. I will read the original page if I care about the information and there will be details. In addition, posters can attach images, long tweets, or even videos in their post. There are many ways to make the information you share clear enough. I got to know the massage treatment I am taking now from one tweet in the group, and it attached a video to show the treatment.

Besides the negative effect of the 140-character limit on the information quality, some of the participants complained that the “fast food” interaction made communications simple but superficial, as evidenced in the following excerpt:

上微博确实能收到很多现实中朋友的关心, 不管是熟的还是不熟的, 知道我生病了, 很多都会留言祝福我鼓励我, 常常可能就是一句话, 我心里很感激, 但总觉得少了点深入的交流. 有些朋友好像本来应该可以多聊几句的, 比如打电话, 见面啊, 应该能一起多说会儿话的, 好像有了微博, 问候变得太容易了, 交流反而少了. □然我也很感激, 但如果有时候能多一点更深的交流也许会更好吧。 I can get care from a lot of offline friends on Weibo. No matter close or not, they know I am sick, and they post or reply to give me wishes and encouragement. Usually it's maybe just one sentence. I am grateful in heart, but still feel there is less deep conversation. With some of these friends I suppose we should have communicated more. For example, if we talk on the phone or face-to-face, we may have more to say. It seems that Weibo makes the greetings too simple, but deep communications less. Though I still feel thankful, but it will be better if some of us can have some deeper communications.

### **Floods of Commercial**

Floods of commercial are the pitfall referred to most by the participants. As mentioned in the content analysis part above, commercial messages, including topic-related or unrelated, took a large part in the group postings. These commercials disrupt the group discussion, and even overwhelm the more important postings, as illustrated by a member from Arthritis group:

现在微群里面广告太多了, 把很多说正事儿的都给刷屏了。我没什么不愉快的经历, 就是看见太多狗皮膏药广告烦, 特□是一些人明明是广告, 还扮演自己是患者。

The screen now is cluttered by too many commercials, and it is even hard to find out the real important messages. I don't have any unhappy experience on Weibo, just feel annoyed by too many commercials. Especially that some commercial accounts disguise themselves as patients.

The most severe effect caused by floods of commercials is that group members lose interest and loyalty to the group when they find the group is full of junk messages.

The following informant expressed her worry:

而且可能广告多了,有些人也不愿意上去了,常常有人呢发的内容什么回应都没有。我偶尔还上微群看看的,因为还是会有些专家上去做些宣传。 And maybe because there are too many commercials in the group, some of the members don't want to get into the Weibo group. It's often now that some postings get no response. I sometimes take a look at the group content, because there are still some (pediatric) professionals posting useful information.

Some of the participants can tolerate the topic-related commercials because they consider some of them as supplemental information which may provide them with other choices of treatment, and one should be able to screen the message, as stated by an arthritis patient:

我看到这些广告后,会好好研究一下他们推荐的疗法或者药品,如果查下来口碑好,我也愿意试一试的。我就当是多一种选择,好坏要自己判断。 I will do some research to the treatment or medications promoted by the commercial messages, and if they have been well evaluated by others, I am willing to try. I consider it as another choice, and I have to make the choice myself.

### **Information Accuracy**

Information accuracy is always a potential pitfall that researchers doubt on online information sharing. It is quite easy to spread words on social network sites, and some of the information may not be carefully proved before the users simply click on “resend.” However, in our study, not many participants find it a problem on the Weibo social support platform. Some of the participants admit that information on Weibo is chaotic sometimes, but claim what is posted in Weibo support groups is of higher quality. A member from the Breast Cancer Group gives an example that what she read on Weibo provides incorrect information:

微博上有时候信息太多反而觉得杂乱,有些内容被转发好多次,但其实也不知道到底对不对,或者具体适用什么情况。比如我记得还有人转发了一条癌症患者要增强体质应该多喝牛奶,可是其实我们乳腺癌患者是应该避免喝牛奶的。 There is too much information shared on Weibo and sometimes it seems chaotic. Some tweets may have been retweeted for many times, but you don't know whether the information is accurate or under what condition it is applicable. For

example, I remember that someone retweeted a message saying that drinking more milk can improve the health of cancer patients, but actually as a breast cancer patient, milk should be removed from you diet.

However, an interesting function of Weibo group also mentioned by participants is the self-purification of information. Although user-generated information may be more problematic than that in Web1.0, the interactive communication featured in social network sites makes it possible for users to correct the inaccurate information by users themselves. In Weibo groups, when someone posts some blurring or incorrect information, or when a member is confused by any information he or she picks up from elsewhere and brings to discussion in the group, there will be some group members willing to do the research and provide the accurate information. Their debate and discussion on the targeted information can draw attention from peers and finally spread the useful information. The sample given above about whether breast cancer patients can drink milk had been finally clarified in the group. However there is some information, which has not been proved even by the medical professionals, still being discussed in the group:

除了牛奶,也有人提出乳腺癌患者豆浆到底能不能喝,这个到现在也没得出个什么结果,专家意见也都不统一,不过至少我们在群里关注这个问题,而且大家还会把自己看的一些比较专业的内容拿来分享,一起分析.至少也算提醒了群里的朋友,不要盲目喝太多豆浆.

Besides the milk, some members also debate on whether breast cancer patients should drink soy milk. We haven't got a definite answer on it, even the health professionals are divided on this problem. However, at least we are paying attention to it, we share the professional information we read and research on it. At least it reminds the people in the group, don't blindly believe that they should drink as much as possible.

### **Negative Energy and Self Expression**

Though self-expression is valued in social support, and as mentioned above,

Weibo provides a platform for users to express themselves which is not encouraged and emphasized in Eastern Asian culture, it develops the problem that the self-expression of negative emotions and feelings can adversely affect other people seeking social support on Weibo. Most of the participants in our study claimed they told that they appreciate it when others share their own experience to encourage them that they will recover from the disease. However, when peers express negative emotions or experience of living with disease, social support seekers are influenced by negative energy, as illustrated by an Arthritis Group member:

我一直都自我暗示要积极乐观面对这个病,但有时毕竟还是会失落的,群里面的病友在群里都是互相鼓励,大多数时候表现的都很积极,但偶尔也会有朋友情绪不好的时候表达一下自己的怨忿.有过一个群里的朋友平时在群里挺乐观的样子,一直在群里发言自我鼓励,可那天突然发了一条内容感慨为什么他的人生是这样的.我看到后也很失落,我和他的情况太像了,我也止不住的就难受了.这种情绪真的会传染的.

I always imply myself to be positive to the disease, but sometime I still feel down, especially when I see any of my peers are down. Most of the time, group members encourage each other and appear quite positive, but sometimes there will be someone posting with resentment when they are in bad mood. I clearly remember that one of the group members, had been quite positive and often posted with self-encouragement, but one day he just posted a tweet in the group sighing that his life is just so. I felt so down when I saw his posting. I have similar experience with him, and I can't help upsetting myself. Emotion can be disseminated.

What is a good sign is that many of the participants report that in their memory and impression the whole atmosphere in the Weibo support groups is positive. There are rarely negative emotions posted on Weibo group. A member from the Breast Cancer Group report that the group atmosphere is more positive than she thought before she joined in:

一开始进这个群组,我感觉整个人就被贴上了乳癌标签,所以我开始的时候到群里去的比较少,我以为群里可能就是一群病人不停地说自己多可怜,但我也

比较想得到一些相关信息,还是会每隔一段时间去看看,而且自己有问题也要问问,后来我就发觉其实这个群整体情绪还是挺积极地,大家都挺积极的,偶尔会有一些负面情绪,也不多,开始可能会受影响,但如果你看下面的评论,往往是非常正面的,也就带动大家都往好的方面想了。

When I started joining this group, I felt that I was tagged with a label of breast cancer, so I didn't visit the group very often. I thought there would be a huddle of patients who would keep saying how sick they are. But I do want to receive more related information from the group, and I also have some questions to ask in the group, so I visit the group page at regular intervals. After a while, I found that the whole group is quite positive. There are some negative emotions occasionally, not much. They did have some influence at the beginning, but if you look at the responses you will find most of them are highly positive, which encourages all of us to look at the bright side.

### **Social Ties and Social Support**

Research Questions 4a and 4b ask about how Weibo affects one's social networks and how Weibo influences the users' social support perceived online and off-line.

Unlike other online social support groups, participants' online and offline social ties often overlap. Weibo users follow and are followed by their friends they have known offline, and become online friends. Users also follow or are followed by others who share similar concerns, interests, or characteristics. Many social support seekers with medical concerns make friends with patient friends on Weibo, through Weibo group, Weibo recommendation according to similar tags, or an in-site search tool.

On the platform of Weibo, people have both weak ties and strong ties to support them. Strong ties may be from their real life and existing social networks; strong ties may also be developed from those weak ties, who share similar medical concerns with the social support seekers. Weibo, with which people post and share every minute of their daily life and feelings, brings users closer.

Weibo also expands one's social network size by making them connect with new

friends who share similar interests with them. For people who seek social support on Weibo, they can interact with peers who share similar medical concerns, whom they may have little chance to know or have further communication with.

Moreover, Weibo not only expands one's social networks, but also consolidate their existing relationships, for example, old friends who they have lost contact with for years, or some nodding acquaintances. Weibo provides a chance for these social ties to catch up on each other's news, and give their support.

### **Weak Ties May Become Strong**

Peers online, considered as weak ties in most general situations, may become strong when they share deeper and broader topics. Social ties established via Weibo for social support purposes are restricted to the medical related topics, like information sharing and encouragement on recovery from the disease at the beginning stage, but later there is chance to turn closer when they share deeper and broader topics. Members from the Breast Cancer Support Group mentioned such an improvement in friendship on Weibo much more than the other groups. The following informant describes her relationship with peers on Weibo as below:

我和好几个微群里的朋友成了很好的朋友,我们聊很多,不只是病情,还有自己的日常生活,家人,和平时交的好朋友没什么区别,只是会更了解大家身上的这个病。别的一些病友也会经常互动,但一般就还是围绕病情,也仅限于微博上简单的交流。不像那几个很好的朋友,我们有时候还会qq聊天或者打电话的。

I've made close friends with several group members. We talk a lot, not only on the disease, but also our daily lives, families, with little difference from friends known in real life. And we understand each other more about the disease we are living with. I interact with other patient friends too, but focus more on the disease, and we only take the simple interaction on Weibo. However, with those close friends, we sometimes talk on QQ or call.

Social support seekers place much value on such friendships that share critical

concerns and grow close by sharing deeper and broader life topics. Weibo is an ideal platform to form such friendships. Via the Weibo profile, one's identity may not only be a patient, but a husband/wife, a child, a parent, or a businessman, or a translator. Weibo profile can make a patient know their peers as a friend, but not restricted as a peer, as evidenced in the following excerpt:

我和现在几个比较要好的朋友当时就是在群里认识的,开始都只是在微博群里交流.我也会比较关注对方的微博,我一开始也只是看他们在自己微博上发的和病情有关的内容,后来慢慢也会注意到那些关于日常生活,想法或者兴趣爱好,你会发现自己从各方面都对这个人了解更多了,也就有机会慢慢成为好朋友.

I got to know these good friends from the Weibo group. At the beginning we just interact in the group. I also followed their Weibo profile, and focused on the disease related messages. Gradually you read more about this person's daily life, thoughts, and interests. You find you know her better in many aspects and have chance to be better friends.

### **Expanding and Consolidating Social Networks Instead of Replacing Them**

It is noteworthy that desire to seek social support from Weibo does not necessarily take up the time and energy of the support seekers to interact with real life families and friends. Participants from all the targeted groups agreed that social network sites "expand" their social networks but do not "replace" them, as evidenced in the following excerpt:

我在使用微博前和家人朋友都有很好的交流,他们给我很多帮助,使用微博以后,我还是和家人朋友保持原有的交流,只是用了微博让我扩展了交际圈多认识了一些病友,他们可以从另一些方面来支持我,而且通过微博还让我帮助了别人,而不仅仅是受别人照顾的人。

Before I logged in Weibo, I had great communication with my families and friends, and I got many supports from them. After I used Weibo, I kept such interaction with my families and friends, it's just Weibo expands my networks and makes some people with similar experience come into my network. They can support me in other aspects, and through Weibo I provide support to others too, but not only a person being taken care of.

In addition to expanding the social networks, Weibo even reinforced some offline

network ties. Many participants mentioned that Weibo could connect them with old friends who they have lost contact with for years, or some nodding acquaintances. By seizing and keeping these kinds of connections, Weibo provides these acquaintances and old friends chances to give their support.

而且开了微博以后,我还找到一些原来的老朋友已经几年不太联系的了,他们知道我得了这个病,也都通过微博找我,关心鼓励我。

And after I signed up with Weibo, I reestablished contact with some of my old friends whom I haven't contacted for years. They know I have this health problem, and send their care and encouragement to me via Weibo.

More importantly, Weibo connects the support seekers with their networks they had before being diagnosed. Keeping the networks makes them believe they are not desocialized, as evidenced in the following excerpt:

我还通过微博和原来的同事朋友保持联系,这对我来说挺重要的。原来以为生病会让我失去很多朋友,但在微博上我还是可以和原来的同事朋友保持联系。我感觉我还是在原来那个圈子里,没有孤独感。

I keep in touch with my colleagues via Weibo, which is important to me. I thought being sick will make me lose many friends, but actually I can keep in touch with them on Weibo. I feel that I am still in my networks, no loneliness.

Interaction on Weibo is considered a supplement to the social support sought from real life networks, and sometimes, it improves interaction with family members and close friends. When obtaining the appropriate social support on Weibo platform, support seekers feel satisfied and relaxed; they are more willing to open their thoughts to the families, as illustrated by the following informant:

除了家人和比较好的几个朋友,我一般很少和□人提及我得病的事情,就算和家人好友,其实我讲的也不多,不过我能感受到他们的关心。在微博上和病友交流让我接受了我生病这个事实,但这没什么大不了的,我还是原来的我,我也更愿意畅谈这个问题了。有时候和家人在一起的时候,我从微博上看来的内容也会和他们分享,气氛也很正常,不像以前一说到病就阴沉沉的。

Except for family members and several close friends, I rarely talk about my disease with others, and even with family members and close friends, I didn't talk much. I can feel their care for me. Interacting with peers on Weibo makes me

accept the fact that I am sick, but it's not big deal; I am still that person, so I become more open to discuss the disease with my families. Sometimes, I share with them what I read from Weibo, and the atmosphere of the talk is quite normal. Before that, talking of disease was always in gloomy.

## CHAPTER FIVE: DISCUSSION

### **Contributions**

The current study contributes to the research area of social support in three aspects. First, it highlights the unique characteristics of Weibo, as a social network site, in providing social support seekers with plenty of resources to obtain informational and emotional support. It is noteworthy that social network sites can combine one's offline and online networks, as well as medical concerning and non-medical concerning networks, together on one platform. Participants in this study revealed on how they seek and obtain social support on Weibo from peers with similar medical concerns as theirs, and many of them also mentioned how Weibo provided another avenue for their offline ties to express care for them. This network integration makes social network site a unique platform to receive social support from more social ties. However, the power of social network sites is far more than that. What we do not include in the current study is that Weibo can gather the strength of a large number of users to support the people who need urgent, big, and hard-to-obtain support, and most of time they are tangible and financial support. Bender et al. (2011) found that there are some fundraising breast-cancer related groups on Facebook, and they are created to attract financial resources for breast cancer through an event, product, or service. However, on Weibo fundraising usually appears in the form of a widespread message, describing the medical and financial condition of the fund recipient and calling for financial support for him/her. Some messages are spread to call for a particular blood type or bone marrow donation. Sometimes the individual asks for spreading the information to seek treatments on an urgent medical condition. Due to the research method and sample of this current study, this potential social support

obtained via Weibo is not detected in the result; however, it is an important and unique ability that Weibo has to make a difference. Future studies should examine the powerful influence of social network sites on urgent and hard-to-obtain social support seeking. According to the current study, social network sites, such as Weibo, is changing the traditional knowledge of strong ties and weak ties. Online ties were considered weak because people establish the relationships for similar interest or characteristics. However, social network sites on which people may share many details of their lives and devote much time are possible to link people closer to each other. Participants report that they will deepen and broaden the topics with Weibo friends, whom they build relationships with for similar medical concerns at the beginning, and establish long-term ties as the relationship grows. Therefore, it becomes possible that strong ties no longer restrict to offline relationships between intimate people, but extend to online ties, which voluntarily share experiences and feelings on broad topics and maintain fixed and long-term relationships.

In addition, according to the current study, social network sites, such as Weibo, is changing the traditional knowledge of strong ties and weak ties. Online ties were considered weak because people establish the relationships for similar interest or characteristics. However, social network sites on which people may share many details of their lives and devote much time are possible to link people closer to each other. Participants report that they will deepen and broaden the topics with Weibo friends, whom they build relationships with for similar medical concerns at the beginning, and establish long-term ties as the relationship grows. Therefore, it becomes possible that strong ties no longer restrict to offline relationships between intimate people, but extend

to online ties, which voluntarily share experiences and feelings on broad topics and maintain fixed and long-term relationships.

Besides, unique cultural characteristics are found in the current study. The current study is consistent with the findings of Kim et al. (2007) that people with collectivism culture background may be more reluctant to share their problems with and seek for support from others, and they may regard it as a burden to their social networks. Moreover the current study shows that Chinese people with medical care concern more about the stresses they bring to their families, and they feel more relaxed to express feelings to online, especially on Weibo, where the audience is invisible and the relationships are more voluntary. Online platforms provide with a more open and relaxing environment for people with collectivism culture to establish networking with voluntary relationships and seek social support from these ties.

### **Implications**

From a practical viewpoint, the current study implies that the administration and operation of Weibo support groups is crucial to encourage group members to be involved in and receive satisfactory social support via Weibo. Floods of commercial messages clattering in the Weibo support groups are the pitfall complained most about among the participants. According to the content analysis to the tweets of a 6-month period, in the Baby Eczema Group, Children's Health Group, and Arthritis Group, commercial related information takes up a large space of the group discussion. Especially in the Baby Eczema Group, the posting percentage reaches more than 90 in the last three months of 2012. It is understandable that the floods of commercials lower the loyalty of group members and group activity. Moreover, there are even a high number of unrelated

commercial posts in both the Baby Eczema and Children's Health group, and these messages can be definitely considered junk. In fact, with 735 members in the Children's Health Group and 406 members in the Baby Eczema Group, they should have been expected to provide more valuable support. However, in the Breast Cancer Group, there are much fewer commercially purposed messages, not to mention the junk messages. This group provides the support seekers with plenty of informational and emotional support, either according to the content analysis of the group postings or according to the participants self-report of their experience. Finfgeld (2000) suggested that some of the disadvantages of online support groups can be avoided and controlled. In Weibo support groups, group administration and operation is the key. According to the observation and interview with group members, the Weibo Breast Cancer Group is operated with more efforts than other groups. The group creator and other administrators often post and initiate discussions in the group, encourage group members to join the discussion, and prescribe for the group posting. Moreover, the Breast Cancer Support Group even has organized several face-to-face meetings, which are held in Shanghai. The administration and operation of the Breast Cancer Support group is worth learning by other groups.

Future studies on social support in China need to explore other platforms in addition to Weibo, including both traditional face-to-face social support groups and other online platforms. Though for most of the participants in the study Weibo is the main platform from which they seek social support, besides their local doctors, family members and close friends, some of the participants also joined or are taking part in other forms of social support group, such as face-to-face support groups, online medical forums and other social network site groups. Formal face-to-face social support group programs

started relatively late in Mainland China, and still have drawbacks and difficulties in operations. According to the participants, even when they have the chance to access to the group, the group can hardly meet their needs for long-term and frequent social support.

Medical forums are considered to contain more useful information, but with less emotional interaction. It would be worth studying the difference between message types and support types perceived by the support seekers in the Weibo group and in the medical forums concerning the same disease in future studies. It will help the social support seekers find the most effective platform to meet their need

Many of the participants reported that the reason they choose staying in Sina Weibo support groups is that they are Sina users and they do not find active support groups in other social network sites like Renren, Tencent Weibo and Douban. It is also confirmed by searching the support groups on these social network sites. However there is another platform that may be useful in providing social support--QQ group. Several participants in the Breast Cancer Group, the Arthritis Group and the Children's Health Group mention this platform. QQ group is more like a chatting room with fixed group members, and the group discussion can only be accessed by these group members. People who want to join the group must submit an application and get approved by the group's administrators. Group members may have their own profile page called Q-zone, but that is not required. With similarities and differences from Weibo, QQ group is another social support platform worth studying and comparing to the social support perceived on Weibo.

## **Limitations**

A limitation of the current study is that due to the very low group activity, only three members from the Children's Health Group and one from the Baby Eczema Group were recruited in the study. It is unfortunate that we cannot further examine how parents perceive social support to care for their children on Weibo. According to the four participants, they can obtain support on Weibo by following professionals and other parents, even though Weibo group cannot satisfy their needs. Therefore, if future studies intend to explore parents' perception of social support for taking care of their children, an interview or survey participation invitation should be sent to individual parents, but not posted in the group.

Another limitation is that though I was trying to examine social support on Weibo across three different disease or medical concern contexts, little evidence has showed the difference in the social support perceptions of the recipients with different medical concerns. Also, the study does not detect the potentially different needs of support recipients with similar medical concerns while in different stages of the disease. Further studies should be carried out to examine more specific social support perceptions.

## CHAPTER SIX: CONCLUSION

This study has described the experiences of people with certain medical concern seeking social support on Weibo--the most popular social network site in China. The study focuses on four aspects: why and how people seek social support on Weibo, message types in four Weibo support groups, perceived disadvantages of seeking social support on Weibo, and the relation between social ties and using Weibo for social support purposes.

The motivations of people choosing social network sites to seek social support are various and can be explained in multi-levels. The result in the current study is consistent with previous findings that people may not obtain sufficient support from their families and they need to seek social support from other resources. Besides, Chinese people with medical concerns care about the stresses they bring to their families and try to avoid or reduce them: seeking social support online can make them feel more relaxed to be able to express their feelings, especially on Weibo, where the audience is invisible. In addition, the scarcity and drawbacks of face-to-face support group programs in China make the social support seekers turn to online platforms. Participants in the current study take advantage of many Weibo features and functions to seek and provide informational and emotional support. They not only discuss on Weibo groups to ascertain information, share experience, and ask for advice, but also post messages on their own Weibo profile page to obtain social support from professionals, other patients and even friends with no similar disease experience. Support seekers also visit others' profile pages to observe their experience and feelings, and they value this feature of Weibo, because it differentiates Weibo from other online medical forums, on which everybody is more like

a name tag.

Message types on Weibo support groups are to some extent consistent with Klemm's (1998) and White's (2002) studies. Despite the high percentage of commercial postings and replies in the Baby Eczema and Children's Health groups, information exchanging and personal experience sharing are the highest two types of messages in the Weibo support groups. According to the number of postings and reply rate, the Breast Cancer Support Groups is the most active Weibo group among these four. One message type of "Group Assembling" is added in the system for the Breast Cancer Group, since the group is so well organized that administrators sometimes posted greetings to members, encouraged them to join the discussion, and three times, as we know from the sample messages, they organized face-to-face meetings for group members. In contrast, another category added into the system is "Commercials," because commercial messages really took a large space, especially in the Arthritis, Baby Eczema and Children's Health groups. The commercial messages can be divided into two types: topic-related and unrelated. Topic-related commercial messages sometimes were posted along with disease-related information, and sometimes they were posted as a response to messages seeking information on disease diagnosis, medications, or treatment. However, topic-unrelated commercials are totally junk messages, which often lower the activity of the group member.

Though Weibo as an online social support platform, has offered much effective social support to support seekers, potential disadvantages may occur in Weibo support seeking and providing. Weibo, also known as micro-blog, allows the users to post with a 140-character limit. The 140-character limit is considered to be restricting to the Weibo

postings clearly giving medical information. However users familiar with the Weibo functions and features can avoid this problem by attaching long messages, images, hyperlinks and videos to better elaborate the information they provide. Though the 140-character limit can be made up for by these extended functions, some participants still report that fast food interaction makes the emotional communication simple and easy, but superficial sometimes. In addition to the 140-character limit, some users are influenced by negative emotions on Weibo as also noted in the current study. What is a good sign is that many of the participants report that in their memory and impression the whole atmosphere in the Weibo support groups is positive; there are rarely negative emotions posted on Weibo group.

Social network sites, unlike other online social support group, crosscut the participants' online and offline social ties. Social ties established via Weibo for social support purposes are restricted to the medical related topics, but later there is chance for relationships to grow, turn closer when participants share deep and broader topics. According to the participants, much value is placed on the social support from such close patient friends, because they know the disease and they know each other. It is noteworthy that the desire to seek social support from Weibo does not necessarily take up the time and energy of the support seekers from interacting with real life families and friends. Weibo is considered to expand the social networks, but not replace them. In addition to expanding the social networks, Weibo even reinforces and maintains some offline network ties, such as old friends, nodding acquaintances and current friends. Weibo provides another avenue for one's social ties to provide their support and make the recipient believe he or she is not desocialized.

Above all, Weibo effectively functions as a platform to provide informational, emotional, and potentially tangible support to people who seek social support. Good group administration and operation are important to make a Weibo group better serve and satisfy the needs of support seekers. Future studies should compare the social support perceived on Weibo to that perceived in medical forums and other forms of online groups--for example QQ group--to help social support seekers find the most effective platform meeting their needs.

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