Online social support perceived by Facebook users and its effects on stress coping

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A B S T R A C T

A R T I C L E   I N F O

Online social support perceived by Facebook users and its effect on stress coping were examined in this study with a sample of 518 college students, who completed a conventional or online survey form, in which they responded to items regarding demographic information, Facebook use, social support from Facebook friends, resilience, and feeling of stress. Four important findings were found: First, the participants reported having received more information and appraisal support than emotional support. Second, Facebook users who frequently used embedded services (i.e., News Feed, Photos, Events, Groups, and Chat) reported having received greater levels of social support than those who occasionally or seldom used these services. Third, Facebook users' perceived social support and resilience were positively correlated with each other, and were both negatively correlated with feeling of stress. Finally, Facebook social support significantly accounted for the variability of stress, after taking into account the effect of resilience. The results are discussed in terms of characteristics of online social support, implications for coping stress in workplace, and suggestions for future research.

1. INTRODUCTION

Social support is an important part of interpersonal interactions among members of a social group, no matter whether the group is an ethnic, political, professional, or recreational one. Social support is usually provided in the form of sharing information, giving positive feedback, and expressing caring, love, and trust (House, 1981). Support from social group helps individual members cope with hardships and stress, and therefore increase the well-being of the individuals. On the other hand, exchanges of social support bring group members closer to one another, thus enhancing the cohesion and strength of the social group. This feature of exchanging social support is also present in so-called online social networks that have proliferated on the World Wide Web since the advent of many social networking sites (SNSs), such as Facebook, Friendster, and MySpace, etc. For example, when Facebook users press 'Like' in response to photos posted on a friend's personal page, he/she provides social support to their Facebook friends. In fact, why Facebook has been so successful in accumulating more than one billion

active members in less than a decade since its inauguration (Wikipedia, 2014) has to do with the platform it offers that facilitates its users to engage in providing and/or receiving social support in the world of Facebook. Nevertheless, extant research on Facebook has not focused much on online social support exchanged among Facebook users, nor on its effect on personal functioning. The aim of the present study was to examine the characteristics of online social support in the case of Facebook social networks and to evaluate its effect on stress coping.

2. LITERATURE REVIEW

2.1. Social support and its function

Social support, according to House (1981), refers to functional content of relationships, which can be categorized into four broad types of supportive behaviours or acts: instrumental, informational, emotional, and appraisal support. Instrumental support involves the provision of tangible aid and service, such as a colleague's assistance in refining our proposed quality improvement program. Informational support refers to the offering of advice, suggestion, and information to other person who is dealing with a problem. We receive information support when officemates share information about prospective buyers. Emotional support is usually offered by expressing understanding, acceptance, caring, or trust to the person. Finally, appraisal support refers to language or words that help enhance the other person's self-worth and confidence. Heaney and Israel (2008) noted that social support is always intended (by the provider of the support) to be helpful and is provided in an interpersonal context of caring, trust, and respect for each person's right to make his or her own choices.

Social support has been hypothesized to have direct and indirect effects on physical and mental health of individuals (Cohen and Will, 1985; Lazarus and Folkman, 1984). Social support directly affects our health by fulfilling our basic needs of companionship and intimacy and by assuring our sense of belonging and worth. It could also indirectly affect health by enhancing our ability to access resources and confidence in coping with problems, which then attenuate the negative impact of stressors on us. The direct or indirect effects on health have been documented in previous research (Czajkowski et al., 2011; Greenwood et al., 1996; Lett et al., 2005). More recently, Knox and others (1998) reported a strong association between low social support and coronary heart disease. Bekele (2013) found that perceived social support had both direct and indirect effects on health-related quality of life in persons living with HIV/AIDS.

2.2. Social networks and online social support

Advances in computer and networking technologies have transformed Internet into a fascinating and efficient, though unconventional, place for people to interact with others and join in social groups, virtually speaking. SNSs (e.g., Facebook, Friendster, and MySpace) have been attracting hundreds of thousands of active users. Each user has his/her own online social network and belongs to a number of

social groups of different interests. These virtual communities have several advantages over communities of race, religion, or profession (Rheingold, 2000). In the cyberspace, we get to know people first before we choose to befriend them; we are free to choose social group(s) to join in. Furthermore, we would not form prejudices about others regarding their gender and race before we communicate with them.

Just as people exchange social support with members of their social groups in the real world, members of online social groups also engage in providing and/or receiving various forms of social support on the Internet. They help solve the others' technical problems by means of step-by-step online tutoring (instrumental support); they also exchanges ideas or give advices or suggestions to one another (information support). They comfort their friends by voice mails or text messages (emotional support), and send out words that help the other person to build up self-worth and regain self-confidence (appraisal support).

Social support transmitted via the Internet has several advantages. First, online social support comes from a wide variety of sources, such as families, close friends, previous classmates, colleagues or supervisors, and acquaintances or strangers (e.g., fans). Second, it is not restricted to location such that we may receive social support from someone nearby or far away on the other side of earth. Third, online social support can be delivered virtually anytime, immediately or later at a selected time. Fourth, both the provider and the receiver could avoid the embarrassment that sometimes arises in face-to-face social interactions. In other words, online social support has a better chance to be acknowledged and accepted.

2.3. Facebook and online social support

Among many SNSs, Facebook is undoubtedly the most successful one. It has accumulated more than 1.11 billion active members as of 31 March, 2013 (The Associated Press, 2014) and continues to attract many newcomers everyday. The popularity of Facebook can be attributed to many factors, but the most important one is that it meets a basic need of people--the need to be connected with other people. Facebook provides services that help its users maintain and strengthen existing social ties, as well as to establish new relationships (i.e., 'friends you may know' service). Facebook is also a platform for its users to exchange social support with 'friends' in the online social networks (Nabi et al., 2013). Once logged on Facebook, users are geared up to provide or receive social support. Many Facebook services (e.g., Chat, News feed, Photos, etc.) are also devices for Facebook users to give and/or receive various forms of social support. Facebook users are most likely to receive three types of online social support: informational, appraisal, and emotional (Chung et al., 2013). They receive informational support when 'friends' give out advices or share useful information in respond to a question that they have posted on News Feed or Chat. Appraisal support could be garnered when Facebook friends respond positively to the updates of their personal page on Facebook. Receiving a Like, for example, is an indication of assurance and encouragement for many Facebook users. Finally, they receive emotional support on

Facebook as soon as their emotions are recognized and responded to by comforting and encouraging messages from 'friends' of their social network.

Although social support is an important dimension of online interpersonal interactions and has much bearing on personal functioning, research on Facebook users so far has largely focused on other constructs, such as user satisfaction (Pempek et al., 2009), social capital (Ellison et al., 2007; Valenzuela et al., 2009), and privacy concern (Boyd and Hargittai, 2010; Liu et al., 2011; Oz, 2012). To date, except for a few recent studies (i.e., Akbulut and Günüç, 2012; Nabi et al., 2013; Rozzell et al. (2014), there is not much research that addresses on line social support exchanged among Facebook users. The first aim of the present study was to examine this aspect of Facebook user experience, particularly the three aspects of social support and their associations with the use of Facebook services. The research questions of interest were: First, what aspect of online social support is received more often by Facebook users? Second, is online social support perceived by Facebook users related to their use of Facebook services?

2.4. Stress coping, resilience, and online social support

Stress, according to Selye (1956), was physiological and psychological reactions to unpleasant or threatening environmental stimuli. More recently, psychologists tend to view stress as an outcome of person-environment transactions, in which the impact of an external stressor is mediated by the person's appraisal of the stressor and the psychological and social resources at his or her disposal (Cobb, 1976; Cohen and Will, 1985; Lazarus and Folkman, 1984). Two types of appraisals are involved in this process. In the primary appraisal, we gauge the potential threats or harms of a stressful situation, and in the secondary appraisal we evaluate our ability to alter the situation and our ability to manage negative emotional reactions (Glanz and Schwartz, 2008). Our primary and secondary appraisals are then followed by our coping effort and strategies, which then result in differing level of stress. We experience stress only when we perceive insufficient ability and/or resources to counter the stressor. Our stress will be heightened when we sense that our coping fails to attenuate the threats caused by the stressor.

Many factors influence the primary and secondary appraisals in the process of stress coping, two of which are most important: the person's resilience and perceived social support. Resilience could be considered as the capacity of successful adaptation despite challenging or threatening circumstances (Masten et al., 1990), or the ability to maintain a stable equilibrium (Bonanno, 2004). Resilience is commonly seen in children who grow up in disadvantaged conditions (Masten and Coatsworth, 1998), but it is also commonly observed in adolescents and adults (Bonanno, 2004). Resilience is crucial to stress coping, because it helps redefine the stressor (primary appraisal) and increase the strength in solving the problem (secondary appraisal). Individuals with great resilience tend to perceive stressors as less threatening and tend to be competent in dealing with stressors.

Also important in stress coping is the amount of social support perceived by individuals, because it plays an important role in the secondary appraisal of stressful situations. Individuals who are supported by social networks are more confident and competent in confronting the stressor, because they know where to find resources and whom to turn to in order to ease their tension and anxiety. In other words, social support serves as a 'moderator" or a "buffer" to stressful experience (Cobb, 1976; Cohen and Will, 1985). Research has empirically verified the buffering effect of social support in that social support mobilized to help a person to cope with a stressor does reduce the negative impact of the stressor on health (Cohen and Will, 1985; Thoits, 1995).

In a similar vein, we argue that online social support serves a buffer to stressors for frequent users of SNS. For example, Facebook users who frequently receive online social support might have better stress coping than who do not. They might perceive the stressor as less threatening, because of the information shared by their Facebook friends. They might have more or better coping strategies due to ideas or suggestions sent from Facebook friends. They might have less anxiety or fear when the problem is not solved as expected, because their emotions are quickly responded by their Facebook friends. In short, the impact of the stressor is attenuated by the online social support they received from Facebook friends.

Previous research on Facebook has not addressed the effect of online social support on personal functioning. The second aim of the present study was to address this issue by examining the effect of online social support on stress coping in the case of Facebook users. Specifically, two questions were addressed: First, does online social support from Facebook friends contribute to stress coping after taking into account the effect of resilience? Second, which aspects of online social support were relatively more important in making the additional contribution, if any, to stress coping?

3. METHODS

3.1. Participants

Data were collected from two sources of participants. The first consisted of a total of 253 college students being sampled from five universities in northern and central Taiwan, all of whom completed a conventional survey form. The second was college students recruiting from Facebook and BBS (Bulletin Board System) and were asked to respond to an online survey form identical to the one just-mentioned. A total of 319 online survey forms were collected, of which 265 were judged as valid. Of all the participants, 306 (59.07%) were females and 212 (40.93%) were males, including 194 freshmen, 114 sophomores, 106 juniors, and 104 seniors. Among these participants, 91.9% have used Facebook for over one year; 66.2% surfed on Facebook from 2 to 4 hours per day, and 88.6% had 100 and more Facebook friends. In short, these participants were active users of Facebook and belonged to at least one social network on Facebook.

3.2. Instruments

In the survey form, participants responded to the following four types of instruments:

1. Checklist of Facebook Use: This checklist consisted of items regarding their demographic information (gender, age, year in college, type of college, and major) and Facebook use (duration, hours per day, number of Facebook friends, and frequency of using embedded services).

2. Facebook Social Support Scale (FSSC): The FSSC was constructed specifically for the present study to measure online social support perceived Facebook users. Initially, the FSSC consisted of 23 items, and were rated on a Likert-type 5-point rating scale, with 1 as "Totally Disagree," and 5 as "Totally Agree." Factor analysis (Principal component analysis followed by Varimax rotation) revealed that three factors could be extracted: information support (10 items), appraisal support (7 items), and emotional support (6 items). However, in order to make cross-factor comparison, only six items within each factor that had highest loadings were kept to calculate factor scores, with higher score indicating greater level of perceived social support. The internal consistency of each factor was evaluated by Cronbach's alpha coefficients (α), with α being .90 (information), .86 (appraisal), and .74 (emotional).

3. Life Experience Evaluation Form: This 22-item evaluation form assessed the stress experienced by the participants. These items were rated on a 4-point rating scale, with 1 being "Totally Disagree," and 4 being "Totally Agree." However, scores were calculated only from 16 items directly relevant to college life (i.e., academic achievement, social relationship, and career development). Higher score indicated greater level of stress; Cronbach's α for the 16 items was .83.

4. Resilience Rating Scale: A modified version of Adolescent Resilience Scale (Oshio et al., 2003) was used to measure resilience. The scale consisted of 20 items, which were rated on a 6-point rating scale, with 1 for "Totally Disagree," and 6 for "Totally Agree." Greater resilience was indicated by higher score. Cronbach α for this measure was .92.

4. RESULTS

4.1. Relative amount of information, appraisal, and emotional support perceived by Facebook users

Table 1 presents the means and standard deviations of online social support perceived by the participants. To examine whether Facebook users received one particular aspect of social support more than other aspects, we performed a 2 (gender) x 3 (dimension) repeated-measure analysis of variance (ANOVA). The ANOVA yielded only a significant main effect for dimension, $F_{(2, 1152)} = 219.54$, p

< .001. An examination of Table 1 reveals that both males and females reported having received significantly more information and appraisal support than emotional support. Difference between information support and appraisal support was not significant.

Table 1: Relative amount of Facebook user's perceived social support from Facebook friends

Aspect of Social Support	Males (N=212)	Females (N=306)
Information	22.99[a] (3.56)	23.16[a] (3.85)
Appraisal	22.68[a] (3.65)	23.36[a] (4.00)
Emotion	21.33[b] (3.76)	21.55[b] (3.51)

Note. Numbers are means and standard deviations (in parenthesis). Means with different superscripts are significantly different ($p < .05$).

4.2. Online social support and the use of embedded services

The next set of analyses addressed whether the Facebook user's perceived social support varied as a function of the use of Facebook services (i.e., Photos, News Feed, Like, etc.). Specifically, for each type of service, three 2-way ANOVAs (gender by frequency level) were carried out using information, appraisal, and emotional support as dependent variable. In cases where the number of subjects for a particular frequency level was smaller than 10, the subjects for that level was combined with its adjacent level, and 2 (gender) x 3 (frequency level) ANOVAs were carried out instead. These analyses yielded very similar results in that main effect for gender and interaction effect were not significant, but main effect for frequency level was significant. The means and standard deviations of social support as a function of frequency level and the results of ANOVAs are presented in Table 2.

As can be seen in Table 2, Facebook users who 'frequently' used Photos, News Feed, Like, Group, Chat, Notes, and Events reported having received significantly more information and appraisal support

Table 2: Social support as a function of frequency of use of Facebook embedded services

Frequency Level of Use[1]	Social Support		
	Information	Appraisal	Emotion
Photos			
I (N=26)	20.96[a] (4.65)	19.88[a] (4.92)	18.73[a] (4.01)
II (N=306)	22.50[a] (3.66)	22.48[b] (3.73)	20.88 (3.43)
III (N=159)	24.28[b] (3.29)	24.28[c] (3.38)	22.67 (3.40)
IV (N=27)	24.74[b] (3.61)	25.96[d] (3.20)	23.59[b] (3.34)
$F\,(3, 510)^2$	12.73***	19.40***	18.49***
News Feed			
I (N=30)	20.17[a] (4.79)	19.27[a] (6.29)	18.20[a] (5.22)
II (N=225)	22.28[b] (3.65)	22.26[b] (3.37)	21.03[ab] (3.38)
III (N=193)	23.74[c] (3.26)	23.73[c] (3.36)	21.89[b] (3.28)
IV (N=70)	25.16[d] (3.25)	25.57[d] (3.37)	23.07[c] (3.31)
$F\,(3, 510)^2$	18.47***	25.06***	17.09***
Like			
I (N=4) + II (N=90)	21.39[a] (4.14)	20.55[a] (4.47)	19.68[a] (4.13)
III (N=202)	22.60[b] (3.34)	22.74[b] (3.19)	21.24[b] (3.28)
IV (N=222)	24.25[c] (3.53)	24.47[c] (3.56)	22.42[c] (3.36)
$F\,(2, 512)^2$	22.65***	35.85***	19.93***
Group			
I (N=7) + II (N=169)	22.18[a] (3.96)	22.32[a] (4.02)	20.65[a] (3.82)
III (N=237)	23.01[b] (3.37)	23.03[a] (3.59)	21.40[a] (3.39)
IV (N=105)	24.78[c] (3.57)	24.48[b] (3.89)	22.96[b] (3.31)
$F\,(2, 512)^2$	16.29***	9.89***	14.64***
Chat			
I (N=8) + II (N=148)	22.06[a] (3.97)	21.97[a] (4.39)	20.51[a] (3.99)
III (N=214)	22.78[b] (3.45)	22.75[b] (3.29)	22.21[a] (3.36)
IV (N=148)	24.61[c] (3.40)	24.74[c] (3.53)	22.82[b] (3.15)
$F\,(2, 512)^2$	17.62***	18.83***	15.48***

Notes			
I (N=282)	22.50^a (3.83)	22.60^a (4.00)	21.11^a (3.62)
II (N=193)	23.55 (3.46)	23.41 (3.73)	21.68 (3.50)
III (N=35) + IV (N=8)	24.84^b (3.52)	24.77^b (2.97)	22.79^b (3.76)
$F (2, 512)^2$	10.49^{***}	8.67^{***}	4.81^{**}
Events			
I (N=124)	21.48^a (4.27)	21.74^a (4.51)	19.90^a (4.27)
II (N=326)	23.30^b (3.32)	23.23^b (3.56)	21.68^b (3.18)
III (N=59) + IV (N=9)	24.98^c (3.38)	24.80^c (3.25)	23.20^c (3.19)
$F (2, 512)^2$	19.87^{***}	14.21^{***}	20.31^{***}
Games			
I (N=92)	22.97 (3.05)	22.70 (3.85)	20.87 (3.39)
II (N=294)	23.30 (3.80)	23.31 (3.80)	21.61 (3.60)
III (N=70)	22.94 (3.02)	23.43 (3.27)	21.73 (3.38)
IV (N=62)	22.42 (4.88)	22.18 (4.68)	21.32 (4.20)
$F (3, 510)^2$	0.46	1.66	1.04

Note. Numbers are means and standard deviations (in parenthesis). Means with different superscripts are significantly different ($p < .05$).
[1]I: Never; II: Occasionally; III: Frequently; IV: Every Time.
[2]Test statistics for main effect of frequency level in the 2-way ANOVAs.
$^*p < .05$. $^{**}p < .01$. $^{***}p < .001$.

than those who 'never' or 'occasionally' used these services. As for emotional support, Facebook users who 'frequently' used Photos, News Feed, Like, Group, and Events reported having received significantly more support than those who 'never' or 'occasionally' used these services. It should be noted that, when Game was concerned, no significant differences in the amount of online social support were found among Facebook users of differing frequency levels of use.

4.3. The effect of online social support on stress coping

The last set of analyses concerned whether online social support significantly accounted for the variability of stress after taking into account the effect of resilience. Table 3 presents the correlation among three aspects of social support, resilience, and stress. The positive correlation between social

support and resilience suggests that Facebook users who reported having received more online social support also had a greater tendency to report greater level of resilience. More importantly, the three types of social support and resilience were negatively correlated with stress, suggesting that these variables were meaningful and useful in predicting the extent of stress for Facebook users.

Table 3: Pearson correlation between online social support, resilience, and stress（N=518）

Variable	I	II	III	IV	V
I. Emotional Support	(.74)				
II. Information Support	.64***	(.86)			
III. Appraisal Support	.67***	.73***	(.90)		
IV. Resilience	.29***	.39***	.37***	(.92)	
V. Stress	-.24***	-.21***	-.23***	-.45***	(.83)

Note. Numbers in parenthesis are alpha coefficients; numbers not in parenthesis are Pearson correlation coefficients.
***$p < .001$.

Table 4: Summary of hierarchical regression analysis（$N = 518$）

Variable(s) Entered	B	SE(B)	β	t
Model I				
(Constant)	55.99	1.48		37.79***
Resilience	-0.25	0.02	-0.45	-11.35***
$R^2 = .20$, $F(1,516) = 128.9$, $p < .001$				
Model II				
(Constant)	59.44	2.09		28.38***
Resilience	-0.23	0.02	-0.42	-9.81***
Emotional Support	-0.29	0.11	-0.14	-2.63**
Information Support	0.14	0.12	0.07	1.14
Appraisal Support	-0.06	0.12	-0.03	-0.49
$R^2 = .22$, $\triangle R^2 = .02$, $\triangle F(1,513) = 3.46$, $p < .01$				

**$p < .01$; ***$p < .001$.

In order to examine whether Facebook social support significantly accounted for the variability of stress after the effect of resilience was taken into account, a hierarchical regression analysis was carried out (see Table 4 for the results). As can be seen in Table 4, resilience alone accounted for 20% of variance of stress (Model I), suggesting that it was an important variable in explaining the variability of stress felt by Facebook users. Furthermore, social support additionally accounted for a significant 2% of variance of stress (Model II), after the effect of resilience had been taken into account. It should be noted, however, that β was significant only for emotional support, suggesting that the effect of social support in accounting for stress was mainly contributed by emotional support, rather than information or appraisal support.

5. CONCLUSION

Facebook, Friendster, MySpace, and other SNSs have become more and more influential in the life of many young and old people. In the present study, we proposed that online social networks serve as an important source of social support for SNS users. To take Facebook for instance, in addition to its well-known features of searching friends, updating personal pages, and keeping posted with friends, it also allows users to receive online social support from Facebook friends. Online social support functions nearly the same as social support from conventional, social networks such as families, close friends, and workplace colleagues. In the present study, we found a number of important characteristics of online social support, which are discussed as follows:

5.1. Online social support is more often conveyed in forms of information and appraisal support

First of all, our finding suggests that SNS users are more likely to receive information and appraisal aspects of support than emotional support from online social networks. This characteristic could be attributed to the nature of online interpersonal interaction. The Internet is noted for its far-reaching capacity and speedy transactions of data in the form of texts, which is in favor of the exchange of information and appraisal aspects of social support because they could be correctly conveyed in words. In contrast, emotional support expressed in words tends to be interpreted as superficial or insincere by both the provider and the receiver. Moreover, the asynchronous nature of online interpersonal communication hinders the provision of emotional support, which is best delivered by voices, facial expressions, and body languages (e.g., hugs) right at the time when it is needed. Perhaps Facebook users are aware of such a limitation that they engage less frequently in exchanging emotional support on the Internet.

5.2. Online social support varies with the use of some services provided by SNS

Secondly, we found that online social support perceived by Facebook users varied with the frequency of using several Facebook services (e.g., Photos, News Feed, and Group). One interpretation of this finding is that Facebook users who frequently made use of these services were more likely to receive social support from their Facebook friends. On the other hand, it is plausible that Facebook users who had a greater need of social support tended to use these services more frequently. We believe that both explanations are equally true and that many services provided by SNS facilitate the exchange of online social support. It should be noted, however, that not all services of SNS are equally effective in transmitting social support. Game in particular does not seem to have a strong bearing on social support, as far as the three aspects (information, appraisal, and emotional) were concerned. Game is perhaps more related to another aspect of social support that we did not examine in this study, that is, social companionship (Cohen and Will, 1985; Heaney and Israel, 2008).

5.3. Online social support contributes to stress coping independently and jointly with resilience

Thirdly, online social support contributes to stress copying in two pathways. As far as Facebook users are concerned, it appears that online social support independently helps reduce the feeling of stress, and works together with resilience to attenuate the impact of stressors. It should be noted that, although the independent contribution of online social support is mainly achieved by its emotional element, we should not underestimate the contribution of information and appraisal aspects of online social support because they were significantly correlated with resilience, which accounted for a sizable proportion of variability of stress. It is reasonable to believe that information and appraisal aspects of online social support are important to the build-up of resilience and that these two types of social support have a buffering effect on health, similar to that of offline social support (Cobb, 1976; Cohen and Will, 1985; Lazarus and Folkman, 1984).

5.4. Implication and suggestions

Our findings have an important implication on stress coping in the workplace like corporations and enterprises. Workplace social relationships tend to be formal, restricted, and superficial. Workplace is usually full of stressors: accountability, pressure from managers, and competition or comparison among colleagues, etc. Although an optimal level of stress is conducive to good performance, too much stress often results in low productivity or burnout. In other words, stress coping is very important for every professional man and woman. Under such a circumstance, online social networks appear to be a nice

place to get social support and to release stress, no less important than offline sport or recreational social groups. Online interpersonal interactions tend to be free of stress, because we need not act and react promptly. Online interpersonal interactions also tend to be free of formality and unnecessary courtesy such that we can be ourselves. More importantly, we are able to receive support from online social networks, provided that we make the best use of Facebook or other SNSs, particularly in exchanging online social support with others. Sooner or later, stress from work would not be as intimidating as it used to be because we have become resourceful and resilient as a result of social support we receive, online or offline.

Finally, we like to propose three directions for future research. First, it is of interest to examine whether online social support contributes to stress coping after taking into account the effect of offline social support. One limitation of the present study is that a distinction was not made between online and offline social support. For Facebook users, most of friends in Facebook social networks are also someone they know in offline social groups. As such, online social support from Facebook friends is confounded with social support from offline friends or acquaintances. To distinguish the two, researchers should deploy an experimental approach. For example, participants are requested to stay in a stressful situation where offline social relationships are not accessible, and then the participants' feeling of stress can be observed to determine whether or not it varies with differing amount of online social support. Second, it is also important to further empirically verify the "buffering" effect of online social support on stress coping. For example, it is practically possible to test whether the reception of online social support significantly increases one's confidence in confronting a stressor. In the case of Facebook users under stress, if their level of confidence is significantly elevated soon after they have received online social support, then it can be sure that online social support does function as a buffer to stressors. Still another direction is to examine online social support from the perspective of provider. The question of interest is what factors affect the amount and type of online social support that SNS users provide. Gender might be an important factor, because females are more competent than males in detecting social cues (Hall, 1978) and in talking about relationships (Acitelli, 1992). It is testable whether or not female users are more likely to provide social support during online interpersonal communications, particularly that of emotional aspect. Personality is another important factor that deserves our attention. It is likely that individuals with different dispositions (for example, introverts vs. extroverts) would differ in the extent to which they provide online social support as well as in the type of social support they provide. Only when we have considered the perspectives of both receiver and provider, will we have a more complete view of exchange of online social support.

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