



# **Exploring the relationships of online social ties, altruism, and online social support**

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**Abstract:** This study explores the factors that affect the perceptions of social networking site users of online social support. Specifically, we investigate the effect of online social ties and altruism on online social support. This study administers a survey questionnaire to 213 high school students applying for university admission after the release of the public examination results. The results show that online social ties ( $\beta = .284, p < .001$ ) and altruism ( $\beta = .504, p < .001$ ) are significantly related to online social support. Moreover, altruism is significantly related to online social ties ( $\beta = .674, p < .001$ ). The variance explained by the model for online social ties and online social support with  $R^2$  is .454 and .527, respectively. The effects of online social ties and altruism on online social support, and their implications are discussed.

**Keywords:** Social networking sites, Online social support, Online social ties, Altruism, Survey

## **1. Introduction**

The Internet links people from different locations together, and people can now connect to the Internet sitting in front of a computer or when using a smartphone. Through the Internet, they have accessed to social networking sites that provide platforms for people to contact, communicate, and form communities with each other. Social networking sites are widely used every day. One of the biggest social networking sites, Facebook, has an average of 1.09 billion active daily users (Facebook, 2016), and the number is still increasing.

Users share postings and disclose information about themselves on social networking site, and thus form online communities, which potentially offer social support (Schwarzer, Knoll, & Rieckmann, 2004; Ybarra, Mitchell, Palmer, & Reisner, 2015).

Porter (2004) defines online community as a group of people who share similar interests join, interact with each other by using technology, and guided by some protocols or norms. Communication through such platforms can provide online social support for users (Xie, 2008; Green-Hamann, Campbell, & Sherblom, 2011; Greenhow & Robelia, 2009; Eichhorn, 2008; Hossain & Wigand, 2004; Rodger &

Chen, 2005). Previous studies show that the use of social networking sites helps users to gain online social support (Liu & Yu, 2013; Olson, Liu, & Shultz, 2012), which is beneficial to users' mental health (Yasmeen, Khan, Jamshaid, Salman, & Abbas, 2015). Moreover, online social support affects users' online behaviors such as acceptances, disclosures, and engagements (Kim, Shah, Namkoong, McTavish, & Gustafson, 2013; Ye, 2006; Stefanone & Lackaff, 2009; Rhee & Kim, 2004).

However, only limited studies explore the factors affecting users' perceptions of online social support. The relationships between online social factors and perceived online social support and what kind of people perceive greater online social support, are still not well defined.

Therefore, the research objective of this study is to understand users' perceptions of online social support. The research question is: What are the factors relating to social networking sites' users' perception of online social support?

The rest of the paper is organized as follows. Section 1 reviews the research on online social support, and identifies the factors that might affect social networking sites' users' perceptions of online social support. The next section considers online social ties and altruism. The third section develops a model explaining how these factors affect online social support. The fourth section describes the instrument used to collect the data and its validation. The fifth section reports the model testing results. The final section discusses the aims of the study, and considers how online social ties and altruism affect social networking sites' users' perceptions of online social support.

## **2. Literature Review and Hypothesis Development**

### *2.1 Online social support*

Four decades ago, Cobb (1976) defined three classes of social support: (1) information leading the subject to believe that he is cared for and loved, (2) information leading the subject to believe that he is esteemed and valued, and (3) information leading the subject to believe that he belongs to a network of communication and mutual obligation. Social support does not take the form of material services like sitting on the bus; it is a kind of information that cannot be physically measured. Social support comes from social networks. All the members of a network can potentially provide social support to an individual in the network. Social support is often classified into several types, such as instrumental, tangible, informational, and emotional, and it is sometimes described as a reciprocity process, which is related to altruism. (Schwarzer et al., 2004; Taylor, 2011). Social support is not only a reward from online communities but also a fundamental element of building sustainable community (Pfeil, Zaphiris & Wilson, 2010).

Social networking sites allow users to join different online communities and social networks via their computers or other devices. Users can obtain online social support from their relationships with other users of their social networking sites (Rozzell et al., 2014). Online social support is unique and irreplaceable that users can not gain it from places other than online communities (Ratan, Chung, Shen, William, & Poole, 2010).

Previous studies show that online social support comes from both the actions and structure of the social networking sites (Liu & Yu, 2013; Nabi & So, 2013; Ybarra et al., 2015). However, online social support is not simply gained by users from social networking sites but influenced by social factors and demographics factors such as age and healthiness affect online social support (Giles & Newbold, 2013; Seo, Kim, & Yang, 2016; Wright, Rains, & Banas, 2010).

In this study, we ask whether the structure of online social networking sites and individuals' personalities influence online social support. We argue that the strength of ties between users and altruism provide information that leads the user to believe that he belongs to a communication and mutual obligation network. We find that social networking sites can create social support. The

following literature review helps us to identify several key determinants of online social support.

## *2.2 Online social ties*

Thoits (2011) defines social ties as connections to and contacts with other people through membership in primary and secondary groups. Primary groups consist of people who are closely related to the focal individual, such as friends and family members; secondary groups consist of people who know an individual less personally, such as colleagues.

The strength of a tie depends on the amount of time, emotional intensity, intimacy, and reciprocal service that characterizes the tie (Granovetter, 1973). Traditionally, social ties are considered social support resources (Barrera, Sandler, & Ramsay, 1981). Previous studies have found that the stronger his social ties, the more social support an individual receives (Ellison & George, 1994). These strong ties provide social support in the form of emotional aid, small services, and companionship (Wellman & Wortley, 1990). Some scholars consider social ties and social support together, and claim that social ties have the same main effect and stress-buffering effect as social support (Kawachi & Berkman, 2001).

There is no doubt that there is a strong relationship between social ties and social support in traditional face-to-face society. However, few studies investigate the relationship between online social ties and online social support. Although online social networking sites do not provide face-to-face contact, the contact time between users is high and reciprocal service is easier, as online social networking sites break geographic barriers. Previous study shows that bonded by online social tie can provide resources for users which include useful information, personal relationships, or the capacity to organize groups (Ellison, Steinfield, & Lampe, 2007).

Therefore, we argue that social networking sites provide a medium for online social ties, and that these online social ties function as online social support resources. We suggest that online social ties influence the perception of online social support. Therefore, we test the following hypothesis.

- H1: The stronger an individual's social ties on social networking sites, the greater his / her perceived online social support on social networking sites.

## *2.3 Altruism*

Altruism is defined as behavior that benefits another, not closely related, organism that is apparently detrimental to the organism performing the behavior. According to Trivers (1971), benefit and detriment are defined in terms of contribution to inclusive fitness. He states that there are five types of human altruistic behavior: helping others when they are in danger; sharing food; helping the sick, injured, children or the elderly; sharing tools; and sharing information. Although altruism is often considered the outcome of an "altruistic personality" (Rushton, Chrisjohn, & Fekken, 1981), there are three motivations that drive an individual to altruistic behavior. The first is the desire for reciprocity, which means the individual contributes because he expects that someone will help later in return. The second motivation is reputation. A person may help others because this behavior can increase his prestige in the community. The third motivation is a sense of efficacy. Helping others can help a person believe he has an effect on the group, and supports his self-image as an efficacious person (Kollock, 1999). Previous studies show that reciprocity, reputation, and the sense of efficacy also motive people to help others in online communities (Sun, Lin, & Ho, 2006; Wang & Lai, 2006).

Reciprocity motivates online altruistic behavior; people who provide online social support to others hope that others will in return provide online social support to them. This kind of interaction is called reciprocal altruism (Trivers, 1971). Trivers states that the possibility of reciprocal altruism is affected by age, dispersal rate, degree of mutual dependence, parental care, dominance hierarch, and aid in combat. By helping others selflessly, people feel good about themselves (Post, 2005) which helps them to obtain social support, as they believe that they are esteemed and valued.

As social networking sites gather people from different places together, they decrease the dispersal rate. Furthermore, users on social networking sites are all equal, and no one is dominant. Social networking sites may thus enhance altruistic behavior, and the more altruistic behavior a person displays, the more online social support he may reciprocally receive. Although social networking sites cannot provide platform for physical altruistic behavior, users can sharing information more effectively. Previous study shows that altruism directly affects knowledge sharing behavior at online platform (Ma & Chan, 2014). Therefore, we argue that social networking sites are a good platform for reciprocal altruism. We hypothesize that altruism will influence the perception of online social support. Therefore, we test the following hypothesis.

H2: The more online altruistic behavior an individual displays, the greater his / her perceived online social support on social networking sites.

Reputation and a sense of efficacy both motivate altruistic behavior, because an individual is likely to enhance both when he behaves altruistically. Reputation and a sense of efficacy can be viewed as forms of emotional intensity and intimacy, which strengthen social ties. Moreover, Curry, Roberts, and Dunbar (2013) find that altruism is stronger in close relationships. We argue that altruism influences the strength of social ties.

H3: The more online altruistic behavior an individual displays, the stronger his / her social ties on social networking sites.

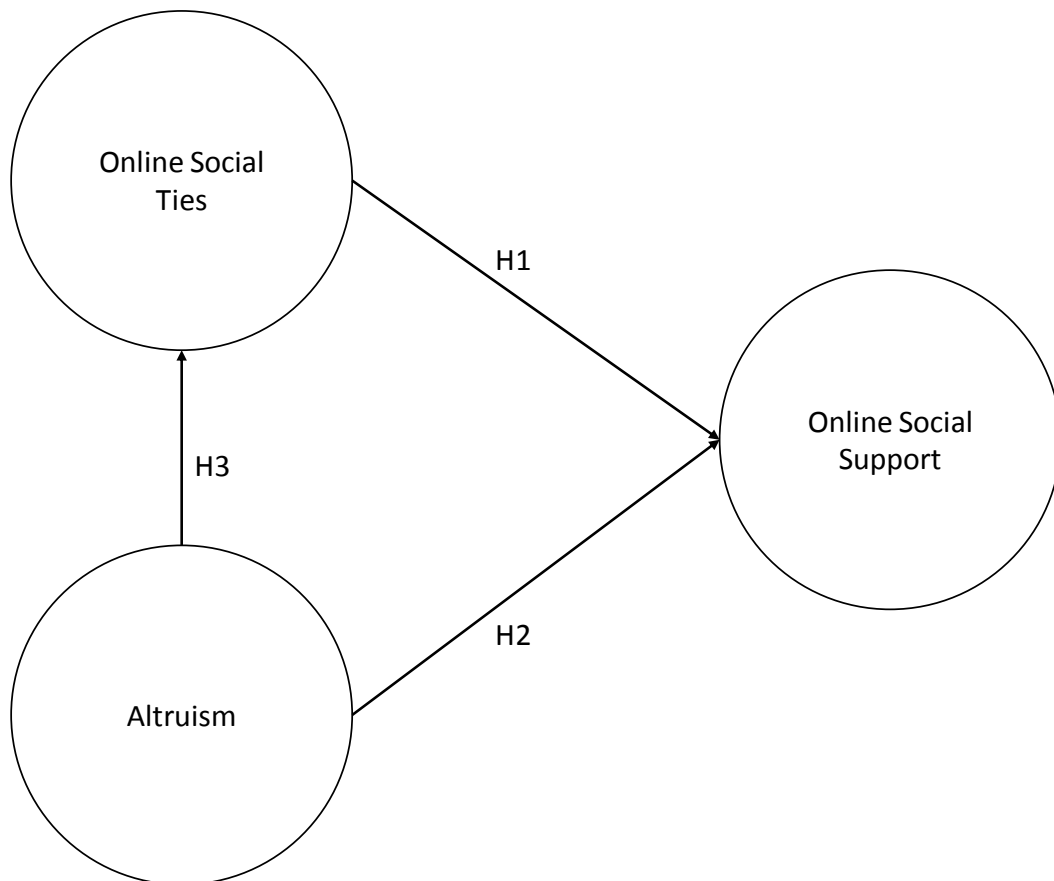


Figure 1. Model framework for online social support, altruism and online social ties

### **3. Method**

#### *3.1 Background, subjects, and data collection*

Social networking sites such as Facebook, Twitter, LinkedIn, and Weibo are free online platforms, open to the public. Once registered, people can communicate with other members on these social networking sites.

This study was conducted in the summer of 2016. The subjects were all high school students applying for university after the release of the public examination results. These high school leavers were a good representation of users of social networking sites as prior studies found that social networking usage were especially popular in younger age groups (Greenwood, Perrin, & Duggan, 2016). They were asked, while they were waiting in line to submit their applications to a local university in Hong Kong, to answer a set of questions about their experiences on social networking sites. Most of the participants completed the questionnaire within 20 minutes. Two hundred and thirteen completed questionnaires were returned for analysis. There were 58 (27.2%) male and 155 (72.8%) female. The participants were aged from 17 to 23, with an average age of 18.42 years.

#### *3.2 Measures*

A questionnaire based on previously validated scales was used to obtain self-reported information from the participants. We adapted the 7-item scale from the Interpersonal Support Evaluation List (Cohen & Hoberman, 1983; Wong & Ma, 2016) to measure online social support. This scale uses four categories of social support: tangible support, belonging support, self-esteem support, and appraisal support. We used an 11-item scale to measure altruism in online contexts (Becker & Vance, 1993; Eddleston & Kellermanns, 2007; Fang & Chiu, 2010; Hung, Durcikova, Lai, & Lin, 2011; Ma & Chan, 2014) and a 4-item scale to measure online social ties (Chan & Ma, 2013; Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998). All of the items were ranked on a 7-point Likert scale that ranged from 1 (strongly disagree) to 7 (strongly agree).

### **4. Findings**

#### *4.1 Descriptive statistics of respondents*

There were 213 completed questionnaires. The details are summarized in Table 1.

Table 1. Descriptive statistics of respondents

<b>Subjects</b>	<b>Descriptions</b>	<b>Percentage</b>
Age	17	44 (20.7%)
	18	93 (43.7%)
	19	39 (18.3%)
	20	22 (10.3%)
	21	10 (4.7%)
	22	4 (1.9%)
	23	1 (0.5%)
	Gender	Male
Female		155 (72.8%)

#### *4.2 Descriptive analysis of variables*

The descriptive statistics of the measurement items, online social support, altruism, and online social ties are shown in Table 2. All of the items were clustered in the middle, with the means ranging from 2.43 to 4.39, and the standard deviations ranging from 1.124 to 1.921.

Table 2. Descriptive statistics of the measurement items

	Min	Max	M	SD	$\alpha$	CR
Online Social Support (OSS)					0.865	0.897
OSS 1	1	7	3.88	1.124		
OSS 2	1	7	3.84	1.751		
OSS 3	1	7	2.43	1.597		
OSS 4	1	7	3.67	1.683		
OSS 5	1	7	2.97	1.569		
OSS 6	1	7	3.95	1.687		
OSS 7	1	7	3.93	1.635		
Online Social Ties (OST)					0.907	0.934
OST 1	1	7	3.74	1.542		
OST 2	1	7	3.49	1.523		
OST 3	1	7	3.63	1.567		
OST 4	1	7	3.72	1.542		
Altruism (OA)					0.929	0.939
OAB 1	1	7	3.86	1.587		
OAB 2	1	7	3.21	1.921		
OAB 3	1	7	4.09	1.472		
OAB 4	1	7	4.39	1.424		
OAB 5	1	7	4.08	1.501		
OAB 6	1	7	3.26	1.477		
OAB 7	1	7	3.13	1.537		
OAB 8	1	7	3.01	1.423		
OAB 9	1	6	3.11	1.356		
OAB 10	1	7	3.59	1.442		
OAB 11	1	6	3.28	1.424		

Table 3. Discriminant and convergent validity: Factor loadings

Construct	Factor Loadings	Construct	Factor Loadings	Construct	Factor Loadings
OSS 1	0.549***	OST 1	0.875***	OAB 1	0.682***
OSS 2	0.738***	OST 2	0.895***	OAB 2	0.622***
OSS 3	0.680***	OST 3	0.868***	OAB 3	0.804***
OSS 4	0.812***	OST 4	0.899***	OAB 4	0.782***
OSS 5	0.745***			OAB 5	0.796***
OSS 6	0.840***			OAB 6	0.799***
OSS 7	0.824***			OAB 7	0.807***
				OAB 8	0.780***
				OAB 9	0.798***
				OAB 10	0.751***
				OAB 11	0.790***
AVE	.558		.781		.588

Note. \*\*\*  $p < .001$

Table 4. Discriminant matrix

	<b>OAB</b>	<b>OSS</b>	<b>OST</b>
OAB	0.767		
OSS	0.695	0.747	
OST	0.671	0.623	0.884

### 4.3 Instrument validation

We measured the Cronbach’s alphas ( $\alpha$ ), composite reliabilities (CR), and average variances (AVE) to test the instrument validation (Fornell & Larcker, 1981). Both the Cronbach’s alphas and composite reliabilities of the above three variables exceeded 0.70 (see Table 2), indicating that the measurement model possessed good internal consistency reliability (Nunnally & Bernstein, 1994).

Confirmatory factor analysis was used to test the construct validity of the instrument’s convergent and discriminant validity. The confirmatory factor analysis with factor loadings of each item corresponding to a latent variable were all significant, with  $p < .001$  (see Table 3).

The AVE of all of the variables met the recommended criteria for convergent validity, with values greater than 0.50 (see Table 3)(Hair, Ringle, & Sarstedt, 2011).

Moreover, the instrument’s discriminant validity was exhibited by the fact that each of the diagonal loadings was greater than the remaining vertical and horizontal loadings (see Table 4), indicating that all of the constructs exhibited both convergent and discriminant validity.

Table 5. Summary of model testing of hypothesis 1 and hypothesis 2

	<b>SRMR</b>	<b>R<sup>2</sup></b>	<b>Beta</b>	<b>t-value</b>	<b>p</b>
OAB			0.504	6.874	< .001
OST			0.284	3.613	< .001

Table 6. Summary of model testing of hypothesis 3

<b>R<sup>2</sup></b>	<b>Beta</b>	<b>t-value</b>	<b>p</b>
0.454	0.674	14.566	< .001

To analyze how factors such as online social ties and altruism affect respondents’ online social support level, we applied partial least squares path modeling (PLS) to the overall model and the causal paths. PLS can be used to process complicated models without requiring distributional assumptions about the sample, and calculates a T-statistic using the bootstrap technique (Chin, 1998). It draws on several thousand random bootstrap sets to obtain stable standard errors and low differences between the entire sample estimates and the means of the subsamples (Leger, Politis, & Romano, 1992). As it is component based, PLS can avoid problems like inadmissible solutions and factor indeterminacy (Fomell & Bookstein, 1982). PLS is similar to regression, but can simultaneously model the structural paths (i.e., theoretical relationships among the variables) and measurement paths (i.e., relationships between a latent variable and its indicators). Rather than assuming equal weights for all of the indicators in a scale, the PLS algorithm allows each indicator to vary its contribution to the composite score of the latent variable (Chin, Marcolin, & Newsted, 2003).

### 4.4 Summary of model testing results

The SRMR is an absolute measure of fit and is defined as the standardized difference between the observed correlation and the predicted correlation. A value of less than 0.08 is generally considered a good fit (Hu & Bentler, 1999). As shown in Table 5, the SRMR was 0.078, which is less than 0.08. The variance-explained online social support with R<sup>2</sup> was 0.527. The standardized coefficient for online

social ties was 0.284 (t-value 3.613,  $p < .001$ ) and for altruism was 0.504 (t-value 6.874,  $p < .001$ ). Therefore, H1 and H2 were supported. In Table 6, the variance-explained online social ties with  $R^2$  was 0.454. The standardized coefficient for altruism was 0.674 (t-value 14.566,  $p < .001$ ). Therefore, H3 was supported.

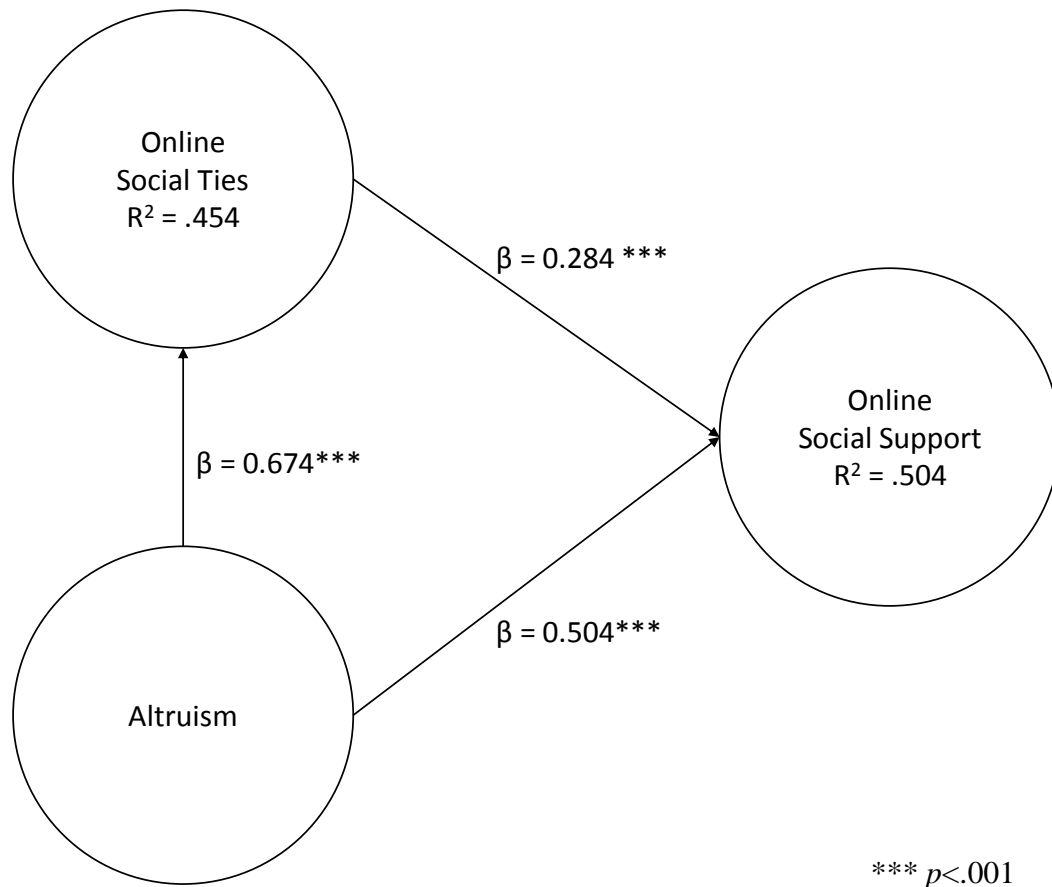


Figure 2. Summary of model testing results

## 5. Discussion

Our findings lend empirical support to existence of online social support. This study proposes and tests a theoretical model of online social support, with particular attention given to the role of altruism and social ties. Following previous studies (Lee, Kim, & Kim, 2011; Ma & Chan, 2014), we hypothesize that altruism is closely correlated to online knowledge sharing, and to aspects of online brands; for example, to consumers' online brand community engagement intentions. The results not only confirm the effects of altruism on online behavior, they also show that it has a strong effect on social ties, which has not been previously recognized.

### 5.1 Selflessness is a crucial facilitator of online social support

Altruism, also called selflessness, has a very significant effect on online social support. According to one study, altruism, when put into practice, is "a willingness to take action even in the face of the free rider problem" (Stern, Dietz, Abel, Guagnano, & Kalof, 1999, p. 83). Consistent with this observation, this study finds a very strong relationship between online social support and altruism. Altruism is about self-sacrifice under critical circumstances, and thus people may not exercise much altruism in normal life; however, it is also a "human instinct" that is exercised naturally. According to Warneken and Tomasello (2009), human infants are born altruistic. Accordingly, it can be inferred that altruism is



universal, although we may not notice it in ourselves until a critical moment arrives, and we act altruistically, either intentionally or unconsciously. The social support found on online platforms is a crucial part of everyday life. We may not see each other often due to our hectic schedules, but social support is crucial in our life. Parra-López (2011) argues that the intention to use social media is an altruistic intention; many people willing to help each other on the social network platforms, for example, by sharing information on Facebook, answering questions on Twitter, posting recipes on Instagram. These are kind acts, motivated by altruism. Clearly, online social support is embodied in various online platforms.

### *5.2 Social ties are influencing mutual online support*

This study also finds that social ties have a positive relationship with online social support. Social ties are bridges between people. Previous studies show that social ties can enhance trust in human interactions, and that the privacy of social network platforms can also enhance the formation of social ties (Chan & Ma, 2015). There are two types of social ties, social ties maintained in everyday social interaction, and social ties maintained on online networks (Ellison, Steinfield, & Lampe, 2007; de Zúñiga & Valenzuela, 2011; Pollet, Robert, & Dunbar, 2011).

However, this study does not consider how online social ties or networks are enhanced by offline interactions, or vice versa. This study confirms that online social ties contribute to online social support. Ties are unequally represented in the networks, and they affect the availability of support in terms of quantity and quality (Wellman & Wortley, 1990). Ties in a social network also influence positive psychological states, including a sense of purpose, belonging, and security, as well as recognition of self-worth (Kawachi & Berkman, 2001).

Furthermore, social ties maintained online will help build support in the online community. For instance, if an individual constantly sees their Facebook friends' updates on their newsfeeds, it creates intimacy; one gets to know their lives and emotions, and one can interact with them openly or privately. Social ties increase the number of messages a person writes and the number of responses to another person's status updates. Social movements are also commonly formed through these interactions; a network supports an event, every member of the community is asked to support the event, and soon it becomes a support group for fighting for a common goal. In this way, we can see that social ties can constitute online support.

### *5.3 Online social support depends more on altruism than on social ties*

Although online social support has been clearly linked to social ties and altruistic individuals, this study shows there is a stronger relationship between online social support and altruism than between online social support and social ties. Social ties can be weak or strong, depending on a number of factors; for example, if there is no face-to-face but only online interaction, the social ties are considered less valuable (Cummings, Butler, & Kraut, 2002). Weak social ties do not create strong online social support, because there are no strong ties between the individuals. Altruism is related to human reproductive success, and is contingent upon the ability to give resources to relationship partners (Brown, Nesse, Vinokur, & Smith, 2003). Accordingly, altruism is innate in individuals, and is directed toward others. The receiver could be your partner, old or new friends, or even strangers who made public posts on which you can leave supportive comments. The role of a support giver reflects the altruism inside all humans.

### *5.4 Altruism helps build social ties*

This study supports the argument that social support buffers the stress of everyday life. However, social ties can be made stronger by altruistic behavior. This is an important finding, as previous studies show that strong social ties are based on favors, gifts, or tacit promises of help (Adler & Kwon, 2002). In contrast, altruism is a type of selflessness, and altruistic actions are not done with the expectation of rewards. Altruistic behavior encourages others to create social ties with the altruistic individuals. For

example, an altruistic person will voluntarily answer your questions on a Facebook page, and will not charge you any money. Even if you are not a friend, if you are in need, she will lend you a helping hand. This builds strong social ties based on questions or common interests, like pets or finding accommodation in another country. In sum, social ties can be enhanced by altruistic behavior.

### *5.5 Limitations and further studies*

A few limitations of our study should be noted. First, the study adopted a convenient sampling strategy to study online media platforms. Although we believe that high school students who are applying to university are a good sample of social networking sites users, as they are enjoying their vacation, and actively using social networking sites, further studies are needed to generalize the results.

Second, this study uses self-reporting questionnaires to gather data; this strategy relies on the honesty and introspective ability of the participants. Although we believe that these participants, who have completed secondary education, are honest and have good introspective ability, the possibility of response bias is still not negligible. Reversed questions may be used in the future to improve the results.

Future research should continue to look at the relationship between online social support and altruism in different contexts. One question is whether interpersonal interaction is restricted to the online context, and the effect of offline context could be a new area of research. Researchers are also encouraged to expand on our findings determining the factors that build online social support in different applications, such as Facebook, Twitter, Instagram, and Snapchat. These applications facilitate a very diverse media ecology, and each could provide different kinds of social support; for example, people commonly ask for urgent information on Facebook, and people share their thoughts, recipes, and even operate shops online. Moreover, altruism is regarded as a personal trait and it should not be affected by the social ties and traditionally social ties are considered social support resources (Barrera, Sandler, & Ramsay, 1981; Ellison & George, 1994). However, there is also a potential reciprocal relationship between social ties and altruism that could be tested in further studies.

This study opens the study of different dimensions of social support online and offline. The study of other possible outcomes of social ties and altruism could also be a fruitful research area. Insights from future studies could help the global digital population support each other mentally and physically through online media.

## **6. Conclusion**

Online social support is essential in this day and age. People do not see each other very often, and they depend on online platforms to maintain relationships. Our study shows that people generally first use social ties to create social support networks. This suggests that every online relationship is founded on a strong social tie. Further, our study contributes to the literature by combining three concepts, social ties (interpersonal relationship), altruism (selflessness), and online social support (outcome from the online interaction), into one research model that helps us to understand how to enhance online social support. Given the critical function of altruism in facilitating online social support, it is hoped that the proposed model will offer concrete and empirical evidence for both media practitioners, academics, and people who are using online platforms every day.

## **References**

- Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review, 27*(1), 17-40.
- Barrera, M., Sandler, I. N., & Ramsay, T. B. (1981). Preliminary development of a scale of social support: Studies on college students. *American Journal of Community Psychology, 9*(4), 435-447.
- Becker, T. E., & Vance, R. J. (1993). Construct validity of three types of organizational citizenship behavior: An illustration of the direct product model with refinements. *Journal of Management, 19*(3), 663-682.

- Brown, S. L., Nesse, R. M., Vinokur, A. D., & Smith, D. M. (2003). Providing social support may be more beneficial than receiving it results from a prospective study of mortality. *Psychological Science, 14*(4), 320-327.
- Chan, W. W. L., & Ma, W. W. K. (2013). Exploring the influence of social ties and perceived privacy on trust in a social media learning community. In S.K.S. Cheung et al. (Eds.), *ICHL2013, LNCS 8038* (pp. 134-144). Berlin Heidelberg: Springer.
- Chan, W. W. L., & Ma, W. W. K. (2015). An empirical investigation on key determinants of social media trust. *International Journal of Innovation and Learning, 18*(2), 151-167.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern Methods For Business Research* (pp. 295-358). Mahwah, NJ: Lawrence Erlbaum Associates.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research, 14*(2), 189-217.
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine, 38*(5), 300-314.
- Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology, 13*(2), 99-125.
- Cummings, J. N., Butler, B., & Kraut, R. (2002). The quality of online social relationships. *Communications of the ACM, 45*(7), 103-108.
- Curry, O., Roberts, S. G., & Dunbar, R. I. (2013). Altruism in social networks: Evidence for a 'kinship premium'. *British Journal of Psychology, 104*(2), 283-295.
- de Zúñiga, H. G., & Valenzuela, S. (2011). The mediating path to a stronger citizenship: Online and offline networks, weak ties, and civic engagement. *Communication Research, 38*(3), 397-421.
- Eddleston, K. A., & Kellermanns, F. W. (2007). Destructive and productive family relationships: A stewardship theory perspective. *Journal of Business Venturing, 22*, 545-565.
- Eichhorn, K. C. (2008). Soliciting and providing social support over the Internet: An investigation of online eating disorder support groups. *Journal of Computer-Mediated Communication, 14*(1), 67-78.
- Ellison, C. G., & George, L. K. (1994). Religious involvement, social ties, and social support in a southeastern community. *Journal for The Scientific Study of Religion, 33*(1), 46-61.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication, 12*(4), 1143-1168.
- Facebook (2016). Facebook Newsroom. Retrieved from <http://newsroom.fb.com/company-info>
- Fang, Y. H., & Chiu, C. M. (2010). In justice we trust: Exploring knowledge-sharing continuance intentions in virtual communities of practice. *Computers in Human Behavior, 26*(2), 235-246.
- Fornell, C., & Bookstein, F. L. (1982). A Comparative Analysis of Two Structural Equation Models: LISREL and PLS Applied to Market Data. *A Second Generation of Multivariate Analysis, 1*, 1-21.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50.
- Giles, D. C., & Newbold, J. (2013). 'Is this normal?' The role of category predicates in constructing mental illness online. *Journal of Computer-Mediated Communication, 18*(4), 476-490.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360-1380.
- Green-Hamann, S., Campbell Eichhorn, K., & Sherblom, J. C. (2011). An exploration of why people participate in Second Life social support groups. *Journal of Computer-Mediated Communication, 16*(4), 465-491.
- Greenhow, C., & Robelia, B. (2009). Old communication, new literacies: Social network sites as social learning resources. *Journal of Computer-Mediated Communication, 14*(4), 1130-1161.
- Greenwood, S., Perrin, A., & Duggan, M. (2016). Social media update 2016. *Pew Research Centre*. Retrieved from <http://www.pewinternet.org/2016/11/11/social-media-update-2016/>
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: indeed a silver bullet. *Journal of Marketing Theory and Practice, 19*(2), 139-151.
- Hossain, L., & Wigand, R. T. (2004). ICT enabled virtual collaboration through trust. *Journal of Computer-Mediated Communication, 10*(1), 00-00.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.
- Hung, S. Y., Durcikova, A., Lai, H. M., & Lin, W. M. (2011). The influence of intrinsic and extrinsic motivation on individuals' knowledge sharing behavior. *International Journal of Human-Computer Studies, 69*(6), 415-427.
- Kawachi, I., & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban Health, 78*(3), 458-467.
- Kim, S. C., Shah, D. V., Namkoong, K., McTavish, F. M., & Gustafson, D. H. (2013). Predictors of online health information seeking among women with breast cancer: The role of social support perception and emotional well-being. *Journal of Computer-Mediated Communication, 18*(2), 98-118.
- Kollock, P. (1999). The economies of online cooperation. In M. Smith & P. Kollock (Eds.), *Communities in*

- Cyberspace* (pp. 220-242). London: Routledge.
- Lee, D., Kim, H. S., & Kim, J. K. (2011). The impact of online brand community type on consumer's community engagement behaviors: Consumer-created vs. marketer-created online brand community in online social-networking web sites. *Cyberpsychology, Behavior, and Social Networking, 14*(1-2), 59-63.
- Leger, C., Politis, D. N., & Romano, J. P. (1992). Bootstrap technology and applications. *Technometrics, 34*(4), 378-398.
- Liu, C. Y., & Yu, C. P. (2013). Can Facebook use induce well-being?. *Cyberpsychology, Behavior, and Social Networking, 16*(9), 674-678.
- Ma, W. W. K., & Chan, A. (2014). Knowledge sharing and social media: Altruism, perceived online attachment motivation, and perceived online relationship commitment. *Computers in Human Behavior, 39*, 51-58.
- Nabi, R. L., Prestin, A., & So, J. (2013). Facebook friends with (health) benefits? Exploring social network site use and perceptions of social support, stress, and well-being. *Cyberpsychology, Behavior, and Social Networking, 16*(10), 721-727.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review, 23*(2), 242-266.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory* (2nd ed.). New York: McGraw-Hill.
- Olson, D. A., Liu, J., & Shultz, K. S. (2012). The influence of Facebook usage on perceptions of social support, personal efficacy, and life satisfaction. *Journal of Organizational Psychology, 12*(3/4), 133-144.
- Parra-López, E., Bulchand-Gidumal, J., Gutiérrez-Taño, D., & Díaz-Armas, R. (2011). Intentions to use social media in organizing and taking vacation trips. *Computers in Human Behavior, 27*(2), 640-654.
- Pfeil, U., Zaphiris, P., & Wilson, S. (2010). The role of message-sequences in the sustainability of an online support community for older people. *Journal of Computer-Mediated Communication, 15*(2), 336-363.
- Pollet, T. V., Roberts, S. G., & Dunbar, R. I. (2011). Use of social network sites and instant messaging does not lead to increased offline social network size, or to emotionally closer relationships with offline network members. *Cyberpsychology, Behavior, and Social Networking, 14*(4), 253-258.
- Porter, C. E. (2004). A typology of virtual communities: A multi-disciplinary foundation for future research. *Journal of Computer-Mediated Communication, 10*(1), 00-00.
- Post, S. G. (2005). Altruism, happiness, and health: It's good to be good. *International journal of behavioral medicine, 12*(2), 66-77.
- Ratan, R. A., Chung, J. E., Shen, C., Williams, D., & Poole, M. S. (2010). Schmoozing and smiting: Trust, social institutions, and communication patterns in an MMOG. *Journal of Computer-Mediated Communication, 16*(1), 93-114.
- Rhee, K. Y., & Kim, W. B. (2004). The adoption and use of the Internet in South Korea. *Journal of Computer-Mediated Communication, 9*(4), 00-00.
- Rodgers, S., & Chen, Q. (2005). Internet community group participation: Psychosocial benefits for women with breast cancer. *Journal of Computer-Mediated Communication, 10*(4), 00-00.
- Rozzell, B., Piercy, C. W., Carr, C. T., King, S., Lane, B. L., Tornes, M., Johnson, A. J., & Wright, K. B. (2014). Notification pending: Online social support from close and nonclose relational ties via Facebook. *Computers in Human Behavior, 38*, 272-280. doi:10.1016/j.chb.2014.06.006
- Rushton, J. P., Chrisjohn, R. D., & Fekken, G. C. (1981). The altruistic personality and the self-report altruism scale. *Personality and Individual Differences, 2*(4), 293-302.
- Schwarzer, R., Knoll, N., & Rieckmann, N. (2004). Social support. In A. Kaptein & J. Weinman (Eds.), *Health Psychology* (pp. 158 – 181). Oxford, England: Blackwell.
- Seo, M., Kim, J., & Yang, H. (2016). Frequent Interaction and Fast Feedback Predict Perceived Social Support: Using Crawled and Self-Reported Data of Facebook Users. *Journal of Computer-Mediated Communication, 21*(4), 282-297.
- Stefanone, M. A., & Lackaff, D. (2009). Reality television as a model for online behavior: Blogging, photo, and video sharing. *Journal of Computer-Mediated Communication, 14*(4), 964-987.
- Stern, P. C., Dietz, T., Abel, T. D., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Human Ecology Review, 6*(2), 81-97.
- Sun, C. T., Lin, H., & Ho, C. H. (2006). Sharing tips with strangers: Exploiting gift culture in computer gaming. *Cyberpsychology & Behavior, 9*(5), 560-570.
- Taylor, S. E. (2011). Social support: A review. In H. S. Friedman (Ed.), *The Oxford Handbook of Health Psychology* (pp. 189-214). Oxford: Oxford University Press.
- Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior, 52*(2), 145-161.
- Trivers, R. L. (1971). The evolution of reciprocal altruism. *Quarterly Review of Biology, 46*(1), 35-57.
- Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal, 41*(4), 464-476.
- Wang, C. C., & Lai, C. Y. (2006). Knowledge contribution in the online virtual community: Capability and motivation. *International Conference on Knowledge Science, Engineering and Management* (pp. 442-453).

- Berlin Heidelberg: Springer.
- Warneken, F., & Tomasello, M. (2009). The roots of human altruism. *British Journal of Psychology, 100*(3), 455-471.
- Wellman, B., & Wortley, S. (1990). Different Strokes from Different Folks: Community Ties and Social Support. *American Journal of Sociology, 96*(3), 558-588.
- Wong, E. T. K., & Ma, W. W. K. (2016). Exploring Relationship between Online Social Support and Individual Online Subjective Well-being among Young Adults. *66th ICA Annual Conference*.
- Wright, K. B., Rains, S., & Banas, J. (2010). Weak-Tie Support Network Preference and Perceived Life Stress Among Participants in Health-Related, Computer-Mediated Support Groups. *Journal of Computer-Mediated Communication, 15*(4), 606-624.
- Xie, B. (2008). Multimodal Computer-Mediated Communication and Social Support among Older Chinese Internet Users. *Journal of Computer-Mediated Communication, 13*(3), 728-750.
- Yasmeen, B., Khan, M. Z., Jamshaid, N., Salman, M., & Abbas, S. (2015). Heart and kidney patients; correlational patterns of social support with coping strategies and subjective well-being. *Professional Medical Journal, 22*(2), 235-243.
- Ybarra, M. L., Mitchell, K. J., Palmer, N. A., & Reisner, S. L. (2015). Online social support as a buffer against online and offline peer and sexual victimization among U.S. LGBT and non-LGBT youth. *Child Abuse & Neglect, 39*, 123-136. doi:10.1016/j.chiabu.2014.08.006
- Ye, J. (2006). Traditional and online support networks in the cross-cultural adaptation of Chinese international students in the United States. *Journal of Computer-Mediated Communication, 11*(3), 863-876.

## **Appendix**

### Measurement items and sources

#### Online Social Support (OSS) (Cohen & Hoberman, 1983; Wong & Ma, 2016)

OSS 1	There is someone in online community who takes pride in my accomplishments.
OSS 2	When I feel lonely, there are several people in online community I can talk to.
OSS 3	If I needed an emergency loan of \$500, there is someone in online community I could get it from.
OSS 4	There are several people that I trust to help solve my problems.
OSS 5	If I were sick, I could easily find someone to help me with my daily chores.
OSS 6	There are several different people I enjoy spending time with.
OSS 7	When I need suggestions on how to deal with a personal problem, I know someone in online community I can turn to.

#### Altruism (adapted from Ma & Chan, 2014; Becker & Vance, 1993; Eddleston & Kellermanns, 2007; Hung et al., 2011; Fang & Chiu, 2010)

OA 1	When I have the opportunity, I help online community members solve their posting questions.
OA 2	When I have the opportunity, I orient new online community members even though it is not required.
OA 3	I enjoy helping other online community members.
OA 4	It feels good to help someone else in the online community.
OA 5	Helping other online community members gives me pleasure.
OA 6	I often help other online community members with their work when they are absent.
OA 7	I often volunteer to do things for the online community that is not required by them.
OA 8	I often help other online community members who have heavy workloads.
OA 9	I often assist other online community members with their work.
OA 10	I often make innovative suggestions to improve their work.
OA 11	I often participate in tasks that are not required, but that help other online community members.

#### Social ties (Chan & Ma, 2013; Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998)

OST 1	I maintain close social relationships with other online community members.
OST 2	I spent a lot of time interacting with other online community members.
OST 3	I know other online community members on a personal level.
OST 4	I have frequent communication with other online community members.

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