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Are All "Friends" Beneficial? The Use of Facebook and WeChat and the Social Capital of College Students in Macau

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Abstract

Facebook is the most popular social network site (SNS) globally, and WeChat is the top SNS in China, so few regions in the world exist where both SNSs are used simultaneously and are popular among the younger generation, and even fewer studies have been conducted on the comparison of the use of the two top SNSs. This study aims to fill this gap by examining the implications of using home country and global top SNSs for social capital among Chinese students from local (i.e., Macau SAR) and mainland China by adapting the analysis framework of the formation and maintenance of social capital—that is, to assess bridging, bonding social capital, and maintained social capital. A survey of undergraduate students at the only comprehensive public university of Macau ($N = 348$) reveals that both Facebook and WeChat use are positively associated with bridging social capital and bonding social capital, yet only WeChat use has a significant and positive relationship with maintained social capital. In contrast, the time spent on Facebook has a strong negative relationship with bridging and bonding social capital. On-campus living also has a positive relationship with both bridging and bonding social capital. All this suggests that keeping social connections virtually and physically simultaneously might provide greater benefits for users.

Keywords

social network site, social capital, WeChat, Facebook, Macau

The college student population is considered to compose the majority of participants in social network sites (SNSs) such as Facebook, WhatsApp, and WeChat. On SNSs, individuals present themselves, establish or maintain connections with others, and expand their social networks. In Macau, SNSs such as Facebook and WeChat are rather common among the younger generation, and this study mainly examines the relationship between the use of Facebook and WeChat and social capital by adapting the analysis framework of the formation and maintenance of social capital, that is, to assess bridging, bonding social capital, and maintained social capital (Ellison et al., 2007).

Created in 2004, Facebook has grown its user population exponentially in the past decade and hit about two billion monthly active users in 2017 all over the world (Chaykowski, 2017). Given Facebook's dominant status as the leading SNS around the globe, China is one of the few countries where indigenous SNSs remain more popular than or as popular as Facebook (Li & Chen, 2014). First released in 2011, WeChat is a leading Chinese social network site developed by Tencent and sees 1.08 billion monthly active users in 2018 (CIW Team, 2019).

Facebook and WeChat allow participants to interact with others they already know in real life or to meet new friends or people. Many prior works have examined how SNS use (especially on Facebook) influences students to maintain and develop social capital (e.g., Chou & Edge, 2012; Ellison et al., 2007; Kross et al., 2013; Li & Chen, 2014). Due to the language differences, that is, content is mainly in English on Facebook and in Chinese on WeChat, and the fact that Facebook is technically blocked in mainland China, the majority of college students do not use Facebook in mainland China. Contrarily, in Macau, a Special Administrative Region of China, people can access both SNSs freely, and both Facebook and WeChat are currently popular. Almost all netizens use WeChat (92%), and they spend the longest time on WeChat, while Facebook is the most frequently used information source among the SNSs for Macau users following two traditional local media sources (Macao Association for internet Research, 2018).

Given its popularity in the world, Facebook has become the topic of a growing body of research in the social sciences, but few studies analyze the use of WeChat and Facebook by

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their users and their relationship with users' social capital. This study intends to fill the gap.

Social Capital and SNS Use

Social capital is an elastic term with a variety of definitions in multiple fields (Adler & Kwon, 2002). Broadly speaking, social capital refers to resources created and accumulated through relationships with people (Coleman, 1988) to gain mutual support, reciprocity, and cooperation, both actually or virtually (Bourdieu & Wacquant, 1992). Regarding operationalizing these concepts, some confusion emerges in the literature about whether social capital is a cause or an effect, or reciprocal one. Some even view social capital as a process, rather than a tangible thing.

The following study will adapt Williams' (2006) and Ellison et al.'s (2007) operationalization of social capital as an outcome rather than the network itself, which implied that the networks are the causal agents or moderators of the social capital measured. We will examine the relationships between SNS use and bridging social capital, bonding social capital and maintained social capital (Ellison et al., 2007), respectively.

Bridging Social Capital

Most of the literature indicates a positive relationship between SNS use and weak-tie–based bridging social capital. Bridging social capital refers to the values and resources embedded in heterogeneous social networks that contain weak ties, such as acquaintances, coworkers, and strangers, providing access to new and diverse information. The majority of previous studies on SNS use show strong positive relationships with social capital, especially among students (e.g., Ellison et al., 2007; Li & Chen, 2014; Lin et al., 2011; Liu et al., 2013). Based on this prior work, we propose the following hypotheses:

H1a. The use of Facebook use by Macau students is positively associated with bridging social capital.
H1b. The use of WeChat use by Macau students is positively associated with bridging social capital.

Bonding Social Capital

Bonding social capital refers to that embedded in homogeneous social networks that contain strong ties, such as family members and close friends, providing reciprocity, solidarity, and emotional support (Granovetter, 1973a, 1973b; Putnam, 2000).

Unlike the consistent finding on bridging social capital, existing literature on the relationship of SNSs and bonding social capital show different results. Some show positive relationships (e.g., Ellison et al., 2007; Liu et al., 2013), while much research shows that SNS use has little or no impact on bonding social capital (e.g., Johnston et al., 2013; Lin et al., 2011). Thus, a question is formulated:

Research Question (RQ1): How are the use of Facebook and WeChat associated with bonding social capital?

Maintained Social Capital

Adapting the framework from Ellison et al. (2007), this research also considers the third kind of social capital—maintained social capital—to measure the role of maintained high school relationships as opposed to close friends. Their research (Ellison et al., 2007) found the intensity of Facebook use is positively predictive of maintained social capital. Another study on Chinese international students at a large public university in the United Sates (Li & Chen, 2014) examined the implications of using host country and home country SNSs for social capital (i.e., Facebook and Renren) and found only Renren use has a significant and positive relationship with maintaining home country social capital, which is similar to the role of maintained social capital. Renren was also a popular SNS in China before the emergence of WeChat. Thus, a question is formulated:

Research Question (RQ2): How are the use of Facebook and WeChat associated with maintained social capital?

International or Indigenous, Which SNS Has More Implications for Social Capital?

Although Facebook and WeChat have similar technological features and functions, when considering them from an international and intercultural perspective, they are very different to Chinese students outside of mainland China (Li & Chen, 2014). Facebook is an international SNS, the content of which is mainly produced in English by people worldwide, while WeChat is an indigenous SNS, the content of which is produced mainly in Chinese and targets Chinese nationals. As Facebook has been blocked in mainland China, Chinese students might use home host SNSs much more often to contact their social ties in the home country and to maintain social capital (Li & Chen, 2014). Although Macau is a Special Administrative Region of China, local students may use both SNSs simultaneously to create and increase their social capital. Students originally from mainland China might use both SNSs to gain information and support from their co-ethnic ties outside of mainland China and use WeChat mainly to maintain social ties within mainland China. Thus, a question is formulated:

Research Question (RQ3): Do the use of Facebook and WeChat have different relationships with bridging, bonding, and maintained social capital?

Method

Because we intended to investigate the differences in SNS use between students living on and off campus and the influences on the students' social capital, a multiple stage proportion sampling was applied to the research. Since the University of Macau (UM) is a public university, the majority of students are local students, and a high proportion of the student body lives off campus with their families; on the other hand, almost all of the nonlocal students live in the on-campus residential colleges. However, as we intended to compare the relationship between SNS use and social capital variables, we needed to have a balanced distributed sample with local and nonlocal students. We decided to use the strategy of sampling based on a distribution list of undergraduate students at the University of Macau provided by the registrar on the university's website.[1] First, we sent an online group invitation from the graduate students who were working as residential assistants in the on-campus residential colleges to the undergraduate students living there. We sent 1,000 invitations and 233 undergraduate residential college students finished the online survey, yielding a response rate of 23.3%. The online survey was hosted on Google Forms in April 2017, and it provided a link for sharing. After the raw statistics on the demographic information, we began the second stage of sampling. In May 2017, we conducted a self-administered survey among general education class students from all different faculties and grades. Finally, we got a valid sample of 348 undergraduate students from the University of Macau. Although we do not know whether bias existed in regard to survey participation, when we compare the demographics of our sample with the official numbers of the UM, our sample appears to be representative, with a few exceptions: females are slightly overrepresented, and nonlocal students are purposely overrepresented because of the research objectives.

Measures

Adapted mainly from Ellison et al. (2007), our instrument included the major types of measures from their research and added the use of WeChat for the specific context of our research.

Demographics. A total of 348 participants finished the survey (for details, see Table 1). In this sample, 343 participants use WeChat, while 332 use Facebook. WeChat is the most frequently surfed SNS (234) followed by Facebook (48). WeChat is obviously the leading SNS among the students.

Measures of Facebook and WeChat usage

Facebook use, WeChat use, and emotional connection with life. First, the purpose of surfing on the SNSs were measured (Table 2). The top purpose of using Facebook is to share information, while WeChat is used primarily to keep connected. The results coincided with the local survey data (http://www.macaointernetproject.net/uploads/default/files/mair_netuse2017_201703c_mair.pdf).

The Facebook intensity index developed by Ellison et al. (2007) had high levels of interim reliability, but regarding the purpose of this research, aspects of social media use were inevitably omitted. To discern the possible different aspects of social media use that actually matter, time spent on the SNS, number of friends on the SNS, and their emotional connection with life will be measured separately.

Macau is one of the special regions where both Facebook and WeChat are popular. Different from Ellison et al.'s (2007) treatment with the variables of SNS intensity, we measured the self-reported number of friends, time spent, and a series of 5-point Likert-type scale attitudinal questions integrated into "emotional collection with WeChat/Facebook" (Table 3) separately. As the SNSs have grown more popular with younger generations, increasingly more research has focused on the psychological and emotional factors that impact social networking (e.g., Chang & Zhu, 2011; Lien & Cao, 2014). From Table 3, we can see students in Macau had similar number of "friends" on the two SNSs but spent much more time on WeChat than on Facebook, and WeChat use was more tightly connected to the students' emotional life than Facebook use.

Furthermore, we measured the correlation between Facebook use and WeChat use to check the appropriateness of the regression analysis. We have found that the relationship between the number of friends (Pearson $r = .24$, $p < .01$) and time spent (Pearson $r = .28$, $p < .01$) on the two SNSs were significantly correlated. However, in the psychological dimension, the college students perceived the use of two SNSs with no relationship (Pearson $r = .04$, $p > .05$).

Use of Facebook and WeChat to meet new people versus connect with existing offline contacts. Ellison et al. (2007) found that Facebook was used much more often to connect with offline acquaintances online (i.e., users connected online with people they already knew offline more often than they connected with people previously unknown to them). However, our research found that currently, college students in Macau use SNSs to meet new people much more than the groups in the United States 10 years ago, and the data were similar between online and offline connections (see Table 4). WeChat played a more important role in social connection than Facebook.

Measures for psychological well-being

Self-esteem. Self-esteem was adapted from the Rosenberg self-esteem scale (Rosenberg, 1989), which used a 5-point Likert-type scale and exhibited high reliability (see Table 5). While comparable with the data reported by Ellison et al. (2007), the self-reported self-esteem of US university students was much higher than that of Macau students.

Table 1. Sample Demographics ($N = 348$).

	M or % (*n*)	*SD*
Gender		
Male	33.6% (117)	
Female	66.1% (230) *Missing 1	
Age	20.3	1.40
Year in school[a]	2.59	1.11
Freshman	23.3% (81)	
Sophomore	21.0% (73)	
Junior	29.3%(102)	
Senior	26.4% (92)	
Primary schooling		
Mainland China	50.9% (177)	
Macau	44.0% (153)	
Others	4.3% (15) * Missing 3	
Home residence		
Mainland China	44.3% (154)	
Macau	51.7% (180)	
Others	3.4% (12) *Missing 2	
Local residence		
On-campus residential college	67.0% (233)	
Off campus	33.0% (115)	
Member of student organizations		
Yes	47.4% (165)	
No	52.6% (183)	
Mostly visited SNSs-Top 3		
WeChat	67.2% (234)	
Facebook	13.8% (48)	
Others	3.7% (13)	
Facebook members	95.4% (332)	
WeChat members	98.6% (343)	

[a]1 = freshman, 2 = sophomore, 3 = junior, 4 = senior.

Table 2. Summary on the Top 3 Purposes for Facebook/WeChat Usage.

	Facebook		WeChat	
Individual items	Rank	*n* (%)	Rank	*n* (%)
To share information	1	141 (40.5%)	2	6 (1.7%)
To keep in contact	2	122 (35.1%)	1	324 (93.1%)
To get to know people (in general)	3	20 (5.7%)	3	3 (.9%)
Dating			3	3 (.9%)

Satisfaction with life at UM. The 5-point Likert-type scales were adapted from the Satisfaction with Life Scale and similar scales (e.g., Diener et al., 1997; Ellison et al., 2007; Pavot & Diener, 1993). The scale also exhibited high reliability (see Table 5). The level of self-esteem of Macau students was significantly lower than Ellison's findings, while satisfaction with university life was slightly lower than in the former study.

Measures of social capital

Bridging social capital, bonding social capital, and maintained social capital. All three measures of social capital—bridging, bonding, and maintained social capital—were adapted mainly from the previous works conducted by the researchers in the United States (e.g., Ellison et al., 2007; Putnam, 2000; Williams, 2006) to compare the findings of the two studies thoroughly and conveniently. The outcomes of reliability measures were high (bridge social capital, Cronbach's $\alpha = .92$; bonding social capital, Cronbach's $\alpha = .72$; and maintained social capital, Cronbach's $\alpha = .85$) in the UM context (See Table 6).

Results

From Tables 7 and 8, we can see that among all the demographic variables, on-campus living has a positive relationship

Table 3. Summary Statistics for Facebook/WeChat Use.

Individual items and scale	Facebook		WeChat	
	M	*SD*	*M*	*SD*
About how many total FB/WC friends do you have at UM or elsewhere? 0 = 9 or less, 1 = 10–49, 2 = 50–99, 3 = 100–199, 4 = 200–299, 5 = 300–399, 6 = 400–249, 7 = 500–599, 8 = 600–699, 9 = 700–799, 10 = 800–899, 11 = 900–999, 12 = more than 1,000	4.16	2.67	4.14	1.85
		Pearson $r = .24$**		
In the past week, on average, approximately how many minutes per day did you spend on FB/WC? 0 = less than 10, 1 = 10–30, 2 = 31–60, 3 = 61–120, 4 = 121–180, 5 = 181–240, 6 = 241–300, 7 = more than 300 minutes	1.82	1.48	3.43	1.60
		Pearson $r = .28$**		
FB/WC use and emotional connection with life scale (FB Cronbach's $\alpha = 0.90$; WC Cronbach's $\alpha = 0.88$)[a]; Pearson $r = .04$, $p > .05$	2.80	0.99	4.13	0.68
FB/WC is part of my everyday activity	2.85	1.26	4.43	0.70
I am proud to tell people I'm on FB/WC	3.69	0.98	4.28	0.80
FB/WC has become part of my daily routine	3.02	1.33	4.45	0.70
I feel out of touch when I haven't logged onto FB/WC for a while	1.91	1.03	3.61	1.09
I feel I am part of the FB/WC community	2.62	1.19	3.93	0.92
I would be sorry if FB/WC shut down	2.79	1.30	3.95	0.96

Note. FB = Facebook; WC = WeChat; UM = University of Macau.
[a]Unless provided, response categories ranged from 1 = *strongly disagree* to 5 = *strongly agree*.
**$p < .01$, two tailed test.

Table 4. Summary Statistics for Facebook/WeChat Use for Prior Contacts and Meeting New People.

Individual items and scales[a]	Facebook		WeChat		Ellison's finding on Facebook[b]	
	M	*SD*	*M*	*SD*	*M*	*SD*
Off to online:	2.97	0.90	3.63	0.70	3.64	0.79
Use Facebook/WeChat to connect with offline contacts (FB: Cronbach's $\alpha = 0.75$; WC: Cronbach's $\alpha = 0.65$); Pearson $r = .27$ **						
I have used FB/WC to check out someone I met socially	3.24	1.18	3.73	1.00	3.99	1.05
I use FB/WC to learn more about other people in my classes	3.22	1.16	3.88	0.91	3.26	1.20
I use FB/WC to learn more about other people living near me	2.38	1.13	2.60	1.31	2.86	1.22
I use FB/WC to keep in touch with my old friends	3.06	1.26	4.28	0.80	4.42	0.86
On to offline: I use FB/WC to meet new people (single item measure); Pearson $r = .39$**	2.79	1.23	3.40	1.25	1.97	1.03

Source. Adapted from Ellison et al. (2007).
Note. FB = Facebook; WC = WeChat.
[a]Individual items ranged from 1 = *strongly disagree* to 5 = *strongly agree*, scales constructed by taking mean of items. [b]Ellison et al. (2007).
**$p < .01$, two tailed test.

with the students' social capital, both bridging and bonding capitals, but no predicting power for maintained social capital. The year of students at university has a positive relationship with bonding social capital, but no predicating power for the other two social capitals.

In contrast to the findings of Ellison et al. (2007), Macau students' Facebook use has played an insignificant role in predicting the maintenance and creation of social capital. Furthermore, the time spent on Facebook has a strong negative relationship with bridging and bonding social capital. What we can see from the three variables and scales is that the number of friends and time spent on the SNS have no power in predicting the situations of their social networks, but the scales that measure psychological factors have predicting power. The more the students feel an emotional connection with the SNS (i.e., WeChat in this case), the higher the social capital, except in the case of maintained social capital. WeChat use and social capital have a deep relationship. WeChat users' emotional connection with life is significantly positively related to all social capitals, but the number of friends and time spent on the social media have no predicting power. However, users' emotional connection with Facebook has no such predicting power.

Regarding the use of both Facebook and WeChat, students' psychological well-being (i.e., self-esteem and satisfaction with life at UM) both have strong predicting power for all

Table 5. Summary Statistics and Factor Analysis Results for Self-Esteem and Satisfaction With UM Life Items.

			Ellison's reports[b]	
Individual items and scale[a]	*M*	*SD*	*M*	*SD*
Self-Esteem Scale (Cronbach's $\alpha = 0.88$)[c]	3.76	0.69	4.30	0.55
I feel that I'm a person of worth, at least on an equal plane with others	3.99	0.83	4.50	0.60
I feel that I have a number of good qualities	4.09	0.77	4.54	0.57
All in all, I am inclined to feel that I am a failure (reversed)	3.60	1.07	4.27	0.86
I am able to do things as well as most other people	3.86	0.82	4.29	0.63
I feel I do not have much to be proud of (reversed)	3.27	1.07	4.26	0.89
I take a positive attitude toward myself	3.87	0.90	4.17	0.75
On the whole, I am satisfied with myself	3.67	0.93	4.07	0.84
Satisfaction With UM Life Scale (Cronbach's $\alpha = 0.82$)[c]	3.21	0.75	3.55	0.74
In most ways my life at UM is close to my ideal.	3.10	0.97	3.42	0.96
The conditions of my life at UM are excellent.	3.52	1.00	3.54	0.91
I am satisfied with my life at UM.	3.36	0.98	3.85	0.84
So far, I have gotten the important things I want at UM.	3.42	0.99	3.74	0.81
If I could live my time at UM over, I would change almost nothing.	2.68	1.02	3.18	1.05

Source. Adapted from Rosenberg (1989).
Note. UM = University of Macau.
[a]Individual items ranged from 1 = *strongly disagree* to 5 = *strongly agree*, scales constructed by taking mean of items. [b,c]Source: Ellison et al. (2007).

three kinds of social capitals, while "satisfaction with life at UM" has weak power in predicting maintained social capital.

Comparable with bridging and bonding capitals, maintained social capital has its own characteristics. On-campus living, Facebook use, and satisfaction with the university have different predicting power in maintained social capital.

Discussion

In this study, we intended to investigate the relationship between the use of the two leading SNSs—Facebook and WeChat—and social capital of the students of Macau. Part of the findings show high consistency with previous studies conducted under different contexts. At the same time, some significant results should be highlighted in the study. Our measure regarding the purpose of using Facebook and WeChat showed the top two purposes to surf on Facebook are to "share information" and "keep in contact," which counted for more than 60% of the first purpose, while the prime purpose for using WeChat is to "keep in contact," which counted for almost 90% of the first purpose (see Table 2). Technological and/or social psychological factors in the use may account for the difference. The following findings on the factor analyses and regression have reflected the situation, to some respect. Students use Facebook as an information source but might damage their social capital; at the same time, they perceive WeChat to be an important connection with a real social network in which they can create and maintain their social capital. In August 2013, a paper published by a team of researchers at the University of Michigan suggested that using Facebook might increase dissatisfaction with life (Kross et al., 2013). Chou and Edge (2012) argued that those with deeper involvement in Facebook have different perceptions of others than those less involved. Our findings in this research recalled their findings to some degree.

China's use of social media is increasing faster than that of the rest of the world. The overwhelming status of WeChat use among all the SNSs in this study reflected the situation in a couple of dimensions, such as the time spent on WeChat, which is much longer than Facebook, and the perceived emotional connection of WeChat with life, which has a strong predicting power of the students' social capital. It is interesting that we have found distinct social functions and roles of the two most popular SNSs in the University of Macau's students' lives. The Chinese-originated SNS WeChat has played a more important role in the students' lives than the U.S.-originated Facebook. Because Facebook is blocked in China, we expected that it would play an overwhelming role in students' lives when they could access it freely in Macau. We saw the more time students spent on Facebook, the weaker their social capital. This could be because the students use the SNS to maintain and create social capitals based on their real social network, while their "old" friends can only access WeChat, so they rely on the network emotionally and receive higher social capital in return.

In this study, we found that on-campus living has a strong predicting power of both bridging and bonding social capital, which means, aside from the use of virtual social network sites, the social network in the real life still plays an important role in creating and enhancing students' social capital. The on-campus residential college at the University of Macau has been accommodating both local and nonlocal students since 2014, and it allows students to have more

Table 6. Summary Statistics and Factor Analysis Results for Social Capital Items.

Individual Items and Scales[a]	*M*	*SD*	Factor loadings[b]		
			Bridging social capital	Maintained social capital	Bonding social capital
Bridging Social Capital Scale (Cronbach's $\alpha = 0.92$)	3.49	0.74			
I feel I am part of the UM community	3.40	1.04	0.78	0.04	0.10
I am interested in what goes on at University of Macau	3.29	0.96	0.74	0.08	0.10
UM is a good place to be	3.60	0.93	0.74	0.15	0.12
I would be willing to contribute continually to University after graduation	3.38	1.00	0.76	0.09	0.08
Interacting with people at UM makes me want to try new things	3.73	0.89	0.77	0.10	0.22
Interacting with people at UM makes me feel like a part of a larger community	3.43	0.95	0.82	0.03	0.18
I am willing to spend time to support general UM activities	3.39	0.96	0.82	0.17	0.04
At UM, I come into contact with new people all the time	3.59	0.96	0.68	0.11	0.24
Interacting with people at UM reminds me that everyone in the world is connected	3.64	0.88	0.70	0.10	0.14
Bonding Social Capital Scale (Cronbach's $\alpha = 0.72$)	3.80	0.78			
There are several people at UM I trust to solve my problems	3.87	0.89	0.44	0.19	0.60
If I needed an emergency loan of MOP$1,000, I know someone at UM I can turn to	3.73	1.14	0.23	0.27	0.75
There is someone at UM I can turn to for advice about making very important decisions	3.78	0.98	0.44	0.10	0.72
The people I interact with at UM would be good job references for me	3.83	0.81	0.54	0.25	0.50
I do not know people at UM well enough to get them to do anything important (Reversed)[c]	2.85	0.98	−.253	−.258	0.41
Maintained Social Capital Scale (Cronbach's $\alpha = 0.85$)	3.88	0.76			
I'd be able to find out about events in another town from a high school acquaintance living there	3.74	0.97	0.39	0.61	−0.06
If I needed to, I could ask a high school acquaintance to do a small favor for me	4.00	0.93	0.11	0.82	0.07
I'd be able to stay with a high school acquaintance if traveling to a different city	4.09	0.97	0.07	0.84	0.18
I would be able to find information about a job or internship from a high school acquaintance	3.82	0.97	0.03	0.82	0.04
It would be easy to find people to invite to my high school reunion	3.77	1.01	0.22	0.76	0.16

Source. Adapted from Ellison et al. (2007).

Note. UM = University of Macau.

[a]Individual items ranged from 1 = *strongly disagree* to 5 = *strongly agree*, scales constructed by taking mean of items. [b]Extraction method: principal component analysis. Rotation method: varimax rotation, explaining 61% of the variance. [c]Dropped by the low loading and not fitting the analytical model.

interaction with their peers after class. Before that, due to the limited space on the university's old campus and the characteristics of the small city of Macau, all the local students lived with their families and had limited interaction with their classmates after school. Both living together in a certain geographic scope and using SNSs, properly connecting with friends inside and beyond the area may have a positive impact on college students' social capital.

This study had several limitations. First, because this is a small survey size in the college, the sample may contain bias. Second, the scales can be adjusted in the Macau context to increase validity. Third, the social psychological motivations of the users of different SNSs, which are key to determining social media users' attitudes (Chang & Zhu, 2011; Lien & Cao, 2014), were not measured systematically in this study. Future studies should explore this parameter.

Table 7. Regressions Predicting the Amount of Social Capitals From Demographic, Psychological and Facebook Variables.

	Dependent variables		
Independent variables	Bridging social capital	Bonding social capital	Maintained social capital
Demographics			
Year	.05	.20***	−.10
Gender (male)	.02	−.08	−.01
Primary schooling	−.10	−.05	−.20†
Home residence	−.05	−.14	.05
On-campus living	.24***	.25***	.04
Member of student organization (Yes)	.14*	.09	.05
Adjusted R^2 (%)	13.3***	14.6***	1.80†
Facebook use			
Number of Facebook friends	.09	.18*	.05
Minutes spent on Facebook per day	−.22***	−.25***	.48
Increased R^2 (%)	3.8**	5.8***	−.10
Facebook's emotional connection with life	.04	.02	−.05
Increased R^2 (%)	.10	.00	.10
Psychological well-being			
Self-esteem	.16***	.24***	.33***
Satisfaction with life at UM	.62***	.26***	.04
Increased R^2 (%)	41.50***	15.00***	10.90***

Note. UM = University of Macau.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 8. Regressions Predicting the Amount of Social Capitals From Demographic, Psychological and WeChat Variables.

	Dependent variables		
Independent variables	Bridging social capital	Bonding social capital	Maintained social capital
Demographics			
Year	.02	.20**	−.09
Gender (male)	−.00	−.10†	.00
Primary schooling	−.15	−.10	−.27*
Home residence	.03	−.08	.08
On-campus living	.25***	.23**	−.11
Member of student organization (yes)	.14*	.03	−.04
Adjusted R^2 (%)	11.30***	14.90***	4.60†
WeChat use			
Number of WeChat friends	.05	.11	−.05
Minutes spent per day	−.05	−.03	.02
Increased R^2 (%)	0.30	.90	.20
WeChat's emotional connection with life	.22**	.28***	.29***
Increased R^2 (%)	3.80**	6.40***	6.90***
Psychological well-being			
Self-esteem	.16**	.31***	.37***
Satisfaction with life at UM	.56***	.22***	.04
Increased R^2 (%)	35.40***	17.30***	13.50***

Note. UM = University of Macau.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

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Note

1. Differences were as follows: 57% of the UM undergraduate students were female versus 66% of our respondents; 78.8% were local versus 51.7% of our respondents (Source: https://reg.umac.mo/qfacts/y2016/student/registered-students/ as at November 18, 2016).

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